

Jackson Demonstratin State Forest
BEAR GULCH #2 2019 Timber Sale

SUMMARY OF SALE INFORMATION

Bid Date:	February 26, 2019	Estimated Net Volume:	6,399 MBF
Redwood	\$725/Mbf (min bid)	THP Number:	1-15-151 MEN
Douglas-fir & WW	\$40/Mbf (min bid)	Phone:	(707) 964-5674
		Information:	Jason Serna
		Date:	11/21/2018

Table 1. Estimated Total Volume to be Harvested (Bf)

Species	Gross	Net	% Defect & Breakage	% Comp.
Redwood	5,861,980	5,217,162	11%	81.5%
Douglas-fir	1,249,651	1,024,714	18%	16.0%
Whitewoods	180,046	156,640	13%	2.4%
Totals	7,291,677	6,398,516		100%

Table 2b. Estimated Volume, Cable and WLPZ (Bf) 36%

Species	Gross	Net
Redwood	2,051,880	1,826,173
Douglas-fir	516,890	423,849
Whitewoods	78,784	68,542
Totals	2,647,554	2,318,565

Table 2c. Estimated Volume, Tractor (Bf) 64%

Species	Gross	Net
Redwood	3,810,100	3,390,989
Douglas-fir	732,761	600,864
Whitewoods	101,262	88,098
Totals	4,644,124	4,079,951

Table 3. Estimated Acreage

	Plan acres
Cable	156
Tractor/Road ROW	214
Totals	370

Table 4. Harvest QMD by Species *(not including estimated cable corridors)*

Species	DBH (in.)
Redwood	24.4
Douglas-fir	24.1
Whitewoods	26.1

GENERAL INFORMATION

The list below is not intended to be all inclusive and all requirements of the North Fork Spur End Timber Harvest Plan (1-18-151 MEN) apply. Copies of Sections I and II of the THP are available by request from the State Forest headquarters or available via the internet, ftp://thp.fire.ca.gov/THPLibrary/North_Coast_Region/THPs/THPs2018/1-18-151MEN/ One complete copy will be provided to the LTO.

TIMBER HARVESTING PLAN

SELECTION – HARVEST TREE DESIGNATION (*Harvest Units A & H - 40 acres*)

Harvest trees shall be marked with blue paint using a horizontal stripe at approximately breast height and a stump mark below the cut line.

Marking of retention trees is not required within selection harvest areas; however individual trees may be marked for retention with either blue or orange paint using a circle at breast height and a stump mark below the cut line.

GROUP SELECTION – HARVEST TREE DESIGNATION (*Harvest Units B, C, D, E, F & G – 237 acres*)

Group boundaries are identified with a combination of red/black striped flagging and yellow painted vertical stripes facing the group opening. Within group boundaries, harvest all conifers greater than 12" DBH, and all tanoak less than 22" DBH that are not marked for retention. Trees may be selected for retention (see below).

Harvesting is proposed between group openings. Harvest trees shall be marked with blue paint using a horizontal stripe at breast height and a stump mark below the cut line. For more information on marking between groups, see Section III, Item 14(d).

Marking of retention trees is not required within group selection harvest areas; however individual trees may be marked for retention with either blue or orange paint using a circle at breast height and a stump mark below the cut line.

VARIABLE RETENTION – HARVEST TREE DESIGNATION (*Harvest Unit A – 93 acres*)

Both an orange mark retention and blue harvest mark will be utilized. Outside WLPZ's, (geologic) Special Treatment Zones (STZ's) and Equipment Exclusion Zones (ELZ's) harvest all conifers greater than 12" DBH, and all tanoak less than 22" DBH that are not marked for retention. Retention trees will be marked with orange paint using a horizontal stripe at breast height and a stump mark below the cut line. Within all ELZ's, harvest all conifers greater than 12" DBH, and all advanced hardwood stump spouts less than 6" DBH and retain all other hardwoods. Within the WLPZ's and STZ's, harvest trees shall be marked with blue paint.

RETENTION IN CLASS III ELZ's [ref 14 CCR 916.9(h)] FOR ALL SILVICULTURE AREAS.

- Retain all large down wood and snags.
- Trees in the ELZ and channel zone which show visible indicators of providing bank or bed stability, excluding sprouting conifers that do not have boles overlapping the channel zone.
- Hardwoods marked for retention shall not be felled, except for situations (1-4) discussed below.
- Retention of trees needed to achieve resource conservation standards in 14 CCR 912.7.

See Section III, Item 26 for explanation and justification for managing hardwoods within Class III ELZ's.

Trees that are identified for retention may be felled in the following situations:

- 1) To provide safe operating corridors for skyline cable operations. See CABLE CLEARANCE TREES below.
- 2) To provide stumps for cable-rigging purposes.
- 3) Compliance with Title 8 CCR, Logging and Sawmill Safety Orders.

- 4) As described in Item 14(g) below.
- 5) Road Right-of-way, see below.

Item 14g

CABLE CLEARANCE TREES: Any tree (within the THP area only) may be harvested/felled if necessary for cable clearance, except for trees located within a WPLZ. Trees located within a WLPZ shall not be felled for cable corridors unless they directly impact the safety of cable-yarding operations, these trees felled for safety may be harvested. Compliance with all other applicable Forest Practice Rules and requirements in the THP is required.

TREES SUBSTANTIALLY DAMAGED BY LOGGING OPERATIONS: Damaged trees may not be felled if within a WLPZ, if marked for retention, or if the damaged tree has a cavity potentially used by wildlife. Otherwise, merchantable young growth trees damaged during timber operations shall be felled and yarded as approved and directed by the plan submitter.

DOWNED TREES: There shall be no cutting or removal of existing unmarked down trees or logs. These logs may be moved if necessary for clearing truck road rights-of-way and as otherwise necessary to harvest the designated timber. If windthrow of merchantable trees occurs in the logging area prior to completion of operations, windthrown trees outside of the WLPZ may be harvested upon approval of the plan submitter.

Item 16

No cable corridors shall be situated such that logs are yarded directly up or down watercourse channels.

With prior approval of the Plan Submitter's designee, the LTO may cable yard any area designated for ground based yarding provided it will afford equal or greater protection to the soil and residual stand.

Item 18

916.9 (m) *All tractor roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following yarding and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.*

Tractor yarding or the use of tractors for constructing and reconstructing logging roads, landings, watercourse crossing, layouts, firebreaks and other tractor roads shall be done only during dry, rainless periods where soils are not saturated.

A geologic assessment was conducted by a Certified Engineering Geologist in conjunction with the RPF's assessment. Geological features were identified during field preparation and joint visits by the geologist and RPF. The Engineering Geologic Report is included in Section V.

Specific recommendations for geologic features are described in the Engineering Geologic Report and have been incorporated into this THP. Below is each recommendation in *Italics*, followed by protection measures/treatment. Reference both Timber Harvest and Geology Maps, end of Section II.

Item 19-21

Tractors may be used on slopes up to 20 percent to construct fire lines around concentrations of slash at cable landings provided there are no other limitations on tractor use.

Ground based equipment may be used within the area designated for cable yarding to long-line trees from cable areas with tracks/tires resting in the area designated for ground based equipment including roads.

Item 23

Year-round wet weather restrictions apply and shall be adhered to. A winter operating plan is included in Item

23.

Item 24 (g)

Road Abandonment: 1,500' (lower segment) Temporary Road 332B. Deactivated Road: There is approximately 900' (upper segment) of Temporary Road 332B proposed for use as haul road with the construction of a landing. The LTO has the option to utilize this segment of road for log hauling with the construction of a landing or if the LTO chooses to not use this road segment for hauling, the landing shall not be constructed and the entire road segment to the intersection of Road 332 shall be abandoned. The LTO may utilize this road segment for log skidding, if not used for hauling.

Temporary Road 332B shall be deactivated annually after use prior to the winter period and upon completion of timber operations in compliance with 14 CCR 923.8.

Item 25

80' of new road construction is proposed.

MITIGATION/MANAGEMENT MEASURES include map point site description and treatments.

Item 26

All WLPZ's are identified with a combination of solid orange and blue and white stripe "WLPZ" flagging.

Watercourse and Lake Protection Zone (WLPZ) Widths:

Slope (%)	Class II-L WLPZ (ft)	Class II-S WLPZ (ft)	Seep/Spring (ft)	Wet Area (ft)	Class III – ELZ (ft)
< 30	100	50	50	50	30
30-50	100	75	75	50	50
>50	100	100	75	50	50

Item 27

There is one site specific location proposed in-lieu of directional felling of trees within a Class I WLPZ.

There are three (3) locations where heavy equipment is proposed for tractor yarding within a WLPZ at Map Points 1, 16 & 21.

Item 30

Slash created and trees knocked down by timber operations within 100 feet of the edge of permanent JDSF Road 300 and Road 330 adjacent to the plan area shall be treated for fire hazard reduction. Treatment shall consist of lopping as defined in 14 CCR 895.1: *Severing and spreading of slash so that no part of it remains more than 30 in. (76.2 cm) above the ground (Ref. Sec. 4551.5, PRC)*. See Timber Harvest Map in back of Section II, illustrating the numbered road system.

Other than JDSF Road 300 and 330, an alternative to 14 CCR 917.2 (b) is proposed for all seasonal roads within or adjacent to the plan area. Guidance for the LTO to comply with this alternative is as follows:

The alternative slash treatment is proposed to reduce the treatment distance from the standard of 100 feet to the proposed alternative distance of 50 feet where all other treatment defined in 14 CCR 895.1 described above shall apply. See Section III, Item 30 (b) for an explanation and justification.

All other roads are temporary, thus would not qualify for a traveled road surface of a public road and not subject to 14 CCR 917.2 (b).

TIMBER SALE AGREEMENT

<u>Page</u>	<u>Item</u>	<u>Description</u>
3	2D	All timber removed by reason of this sale shall be 100 percent scaled by a recognized, independent, third party scaling organization at the PURCHASER's expense. Additional provisions governing scaling appear elsewhere in this Agreement.
3	3A	Unless written extension of time is granted by the Director of Forestry and Fire Protection, at least 5,000 Mbf, shall be paid for and cut before June 30, 2020. This date may be extended or the required volume may be adjusted mutually by the STATE and the PURCHASER due to unforeseen circumstances. All remaining merchantable timber designated for cutting shall be paid for and felled, and all other timber operations shall be completed by November 15, 2020. This Agreement shall terminate on May 15, 2021, by which date all requirements of the Agreement must be completed.
4	3D	The PURCHASER shall notify and obtain approval from the STATE in advance on each occasion of conducting timber operations in the sale area on weekends or State holidays. Active timber operations within 1,000 feet of open campgrounds, as illustrated on the Timber Sale Agreement Map 2 of 2 (Exhibit A, Attachment 2), will be limited to the hours between 7:00 a.m. and 6:00 p.m., and shall be entirely prohibited on Saturdays, Sundays, and State holidays. The fueling and routine maintenance of logging equipment and the watering of logging roads are permitted between the hours of 7:00 a.m. and 11:00 p.m., without restriction to days of the week or holidays.
5	7	The PURCHASER agrees to keep records and furnish the STATE production and cost data with respect to activities conducted pursuant to this Agreement. Required data shall include person-hours and equipment-hours spent on each activity, and applicable rates for employees, machines and supervision, number of log loads by harvest units, number of days yarding by unit and costs for any materials or services needed for completion of activities required by this Agreement.
6	10	The minimum log dimensions for utilization is 10 feet in length and 8 inches in small-end diameter. Any log segment presented for scaling shall be scaled as merchantable which has a net volume of at least 10 board feet, providing a net merchantable scale of at least 25 percent of the total volume.
6	11B	Payment for scaling and reporting services performed by the scaling organization shall be made by the Purchaser.
8	11J	Weight sampled scale shall be considered on Grand fir, Douglas-fir and redwood log loads. The weight sample shall be at a rate of no less than one out of every three loads being scaled. Any mixed species loads or loads with a single log of 28" diameter on the large end of the log will be 100% scaled. 1) Weight scale shall be in accordance with the National Forest Cubic Scaling Handbook (Forest Service Handbook 2409.11a)
9	11Q	Weekly reports of faller days and volume by unit. This information to be available for collection by the Timber Sale Officer or delivered to State Forest HQ no later than the following Tuesday.

<u>Page</u>	<u>Item</u>	<u>Description</u>
10	13A	<p>All terms, provisions and requirements of the Forest Practice Rules and the Timber Harvesting Plan (1-18-151 MEN) are made part of the Timber Sale Agreement.</p> <p>On completion of operations satisfactory to the Timber Sale Officer, the operator shall certify by letter to the STATE, all operations are complete and comply with Forest Practice Rules and THP.</p>
10	13A1	<p>A pre-work conference to be attended by representatives of the State and the Purchaser, including subcontractors is required before operations can begin.</p> <p>The Purchaser is responsible to ensure all contractors are provided with relevant applicable documentation.</p>
11	13A2	<p>No timber operations shall be conducted after January 31 of any year until the State or the Purchaser has completed required surveys for northern spotted owls, and extension of the No-Take determination has been received from the appropriate reviewing agency.</p>
11	13A3	<p>Flagging of all skid trails required at least two weeks in advance and notify the Timber Sale Officer for approval.</p>
11	13A5	<p>Minimum distance between new skid trails is 100 feet, unless waived by the Sale Officer.</p>
12	13A7	<p>Merchantable trees felled and bucked to log lengths, limbed to the 8-inch top, and the top bucked at the time of felling.</p>
12	13A8	<p>All slash created by timber operations within 100 feet of JDSF permanent Road 300 and seasonal Road 330 shall be lopped to the extent that no portion shall remain over 12 inches above the ground for the first 50 feet and 24 inches above the ground for the remaining 50 feet. Slash created by timber operations within 50 feet of all other seasonal roads within and adjacent to the Bear Gulch #2 2019 Timber Sale area shall be lopped to the extent that no portion shall remain over 24 inches above the ground. Prior to October 15 of each operating season, and concurrent with lopping activities conducted after that date, slash and other logging debris shall be removed from truck road surfaces, cut banks, ditches and berms, and from the inlets and outlets of culverts, unless otherwise directed by the Timber Sale Officer.</p>
12	13A9	<p>In order to utilize wood residues and reduce fire hazards, logging wastes on landings on permanent and seasonal roads shall be segregated into large materials which can be utilized by firewood cutters, and other wastes such as bark, branches, etc. For the purposes of this section, material at least 8 inches in diameter and 6 feet in length shall be considered suitable for firewood. On completion of use of each landing, firewood material shall be placed in a stable position where it can be reasonably utilized by firewood cutters.</p> <p>All hardwood trees designated for cutting within the boundaries of established groups C7, C14, C15, C21 and C29 shall be bucked and yarded to landings and decked to be utilized by firewood cutters. Group locations are illustrated on the attached Timber Sale Map 1 of 2 (Exhibit A, Attachment 2). The minimum dimensions of hardwood logs for the purposes of this paragraph are 8 feet in length and 6 inches in small end diameter.</p>
13	13A11	<p>Cable yarding system requirements are given.</p>

Page Item Description

- 13 13A12 Location of cable corridors will be flagged, mapped and approved by Sale Officer prior to rigging. Distance between cable corridors, no less than 200 feet measured from the back of cable road.
- 14 13A16 No permanent painted messages. Use temporary signs to be removed once their function is complete.
- 14 13A20 Mulching standard is at least 95% coverage to a minimum depth of four inches.
- 14 13A22 The PURCHASER shall harvest approximately 70,000 board feet gross scale of redwood and 30,000 board feet gross scale of Douglas-fir within the sale area, deliver and unload to the STATE's sawmill at Parlin Fork Conservation Camp. Delivery shall be performed each year of operations, where 35,000 board feet gross scale of redwood and 15,000 board feet of Douglas-fir is delivered during the first year of operations and the remaining equal amount delivered the following (second) year.
- 15 14A The PURCHASER shall cut all and only those trees designated for cutting. No timber shall be removed from the State Forest until scaled or released by the Timber Sale Officer.

The PURCHASER shall follow specifications described in the Timber Harvest Plan and additional specifications for harvesting and follow up measures within the established groups and variable retention silviculture area, shown on the attached Timber Sale Agreement Map 1 of 2 (Exhibit A, Attachment 2).

- 15 14B The PURCHASER shall slash the variable retention silviculture area within Unit A and within marked boundaries of all established group openings (15) within units B, C, E, F and G. Slashing shall be accomplished by felling all unmerchantable tanoaks from 4 feet in height up to 22-inches DBH and all unmerchantable Douglas-fir/grand-fir (whitewoods) from 4 feet in height up to 6-inches DBH, outside of flagged WLPZ's, Special Treatment Areas (STA) and Class III Equipment Limitation Zones (ELZ's). Within flagged Class III ELZ's, fell all unmerchantable tanoaks from 4 feet in height up to 6-inches DBH. The Timber Sale Officer may prescribe retention of healthy sub merchantable conifers.

A total of four (4) study blocks are located within the variable retention harvest unit A, as illustrated on the attached Timber Sale Agreement Map 1 of 2 (Exhibit A, Attachment 2). In addition to the slashing requirements stated above, the PURCHASER shall slash all unmerchantable redwoods within the boundaries of study blocks 1 and 4. Slashing shall be accomplished by felling all unmerchantable redwoods from 4 feet in height up to 12-inches DBH. Slashing of redwoods is not required in study blocks 2 and 4, where all unmerchantable redwoods shall be retained. Study block boundaries include flagged THP boundaries, Class III centerlines and existing roads, otherwise boundaries are identified with orange (black) checkered flagging. All slashing specified in this agreement shall be conducted during the fall and early winter and to be completed no later than January 31, 2021, unless otherwise a later date is approved by the Timber Sale Officer.

<u>Page</u>	<u>Item</u>	<u>Description</u>
15	14C	The PURCHASER shall lop all fifteen (15) created group openings within harvest units B, C, D, E, F & G and four (4) study blocks 1-4 within the VR harvest unit A. All slash created by timber operations and within said boundaries shall be lopped to the extent that no portion shall remain over 30 inches above the ground. Group boundaries are identified with a combination of black/red strip flagging and yellow vertical striped paint. Group openings and study block locations are illustrated on the attached Timber Sale Agreement Map 1 of 2 (Exhibit A, Attachment 2). Lopping shall be complete no later than January 31, 2021, unless otherwise a later date is approved by the Timber Sale Officer.
17-18	17D	The PURCHASER shall furnish polyethylene pipe culverts and metal stakes in accordance with the attached culvert materials list (Exhibit A, Attachment 1). All required culvert installations on existing roads shall be completed prior to log hauling on those roads, and not later than October 15 of the first year of operations in the sale area unless otherwise approved by the Sale Officer. Culverts shall be laid to lines and grades approved by the Timber Sale Officer.
19	17H	Maintenance work to be done within 15 days of end of hauling operation on each road and immediately on completion of hauling on any road after October 15.
20	17M	The PURCHASER shall provide, haul, place and compact 200 cubic yards of 3-inch minus, 120 cubic yards 1 ½ inch, 80 cubic yards 6-12" cobble and 10 cubic yards of 12-18 inch ¼ ton rip rap of rock for road stabilization at locations specified in Exhibit A, Attachment 1 or locations specified by the Timber Sale Officer.
20	17N	The PURCHASER shall provide and apply not more than two applications of calcium lignosulfonate (lignin), or an equivalent dust treatment substance acceptable to the STATE, during each year of operations as called for by the Timber Sale Officer for dust abatement on Forest Roads 300 between the intersection with Road 350/360 and Highway 20 (approximately 5.3 miles), 350 up to the encroachment to the "South Fork 1" camp site, 360 up to the "Teachers" campsite, 383 up to the "Wagon" campsite and spur leading into the "Roundhouse" camp site. The total road length to be treated is approximately 7.0 miles and is located as shown on the attached Timber Sale Agreement Map 2 of 2 (Exhibit A, Attachment 2).
21	17S	The PURCHASER shall provide the services of a Registered Professional Engineer to provide oversight during construction and installation of stream crossing superstructure in accordance with the criteria and specifications in Exhibit A Attachment 1. The PURCHASER shall provide all materials, tools, equipment and labor to remove and replace the superstructure in accordance with the criteria and specifications in Exhibit A Attachment 1. The bridge shall be blocked with safety fencing or other suitable barrier to prevent accidents at all times when the work crew is not present. The PURCHASER shall give the STATE at least four weeks notice before beginning work. The described work shall be completed prior to October 15, 2020. The location of said bridge is illustrated on the attached Timber Sale Agreement Map 2 of 2 (Exhibit A, Attachment 2).
22	20	In addition to required fire tools complement, have available to the sale area for fire suppression purposes a "water wagon" or similar self-propelled vehicle of at least 1,000 gallon capacity.
45	1	A deposit of \$100,000 must be submitted with the bid.

<u>Page</u>	<u>Item</u>	<u>Description</u>
46	3	Furnish STATE copies of Timber Yield Tax calculations and reporting forms.
50	4	Performance security of \$325,000 required prior to contract approval.

BEAR GULCH #2 THP FLAGGING CODE

Bear Gulch #2 THP Flagging Code

/ = Striped • = Polka dot ■ = Checkered

DESIGNATED ACTIVITY	FLAGGING COLOR
Timber harvesting boundary	pink-glo Site-Mark® "TIMBER HARVEST BOUNDARY" in black lettering
Class II watercourse (centerline)	blue/white stripe
Wet Area/Seep/Spring	blue/white stripe & white (combination)
Class II/Spring/Seep/Wet Area WLPZ	blue/white stripe Site-Mark® "LAKE AND WATERCOURSE PROTECTION ZONE" in black lettering and solid orange
Class I WLPZ	blue/white stripe Site-Mark® "LAKE AND WATERCOURSE PROTECTION ZONE" in black lettering & solid blue (combination) and solid orange
Class III watercourse (centerline)	blue•white polka-dot
Tractor/Cable boundary	red/white stripe
Tractor road (skid trail)	solid yellow or solid yellow Site-Mark® "SKID TRAIL" in black lettering
Message flag	pink/black stripe & yellow (combination)
Survey stations, Cruise stations	red•white polka-dot
Cable Road	solid orange, unless otherwise approved by the RPF
Equipment Limitation Zone (ELZ) & Equipment Exclusion Zone (EEZ)	solid red & solid white (combination)
Proposed Road grade & centerline	solid orange Site-Mark® "TRUCK ROAD" in black lettering
Faller Stripe	solid white
Special Treatment Zone (STZ)	orange/white stripe Site-Mark® "SPECIAL TREATMENT ZONE" in black lettering
Research/Demonstration	solid purple and/or orange/white checkered pattern
Forest Resource Inventory	red & lime green (combination)
Group Opening Boundary	red/black stripe (with yellow vertical stripe paint)
Silviculture Boundary	Solid green Site-Mark® "SILVICULTURE BOUNDARY" in black lettering