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**Report on:** The May 2025 timber volume on the Daniel & Kylie Torrey property located 3.4 road miles north of Princeton, Idaho.

**Legal description:** SESW, Sec 22, SENENW, W1/2NRNW, T 42 N, R 4 W, Boise Meridian, Latah County, Idaho

**Based on a timber cruise of the subject property conducted between May 1 - 5, 2025, the following conclusions and observations are made:**

1) The total sawlog net volume of timber on the property in May 2025 is: 441.058 thousand board feet (441.058 MBF or 441,058 board feet).

2) There is an additional 2.534 MBF of cedar products and 6.433 MBF of GF pulp.

3) The May 2025 total sawlog timber stand net volume and percentages are as follows:

<b><u>Species</u></b>	<b><u>Net volume (MBF)</u></b>	<b><u>Percent total stand volume</u></b>
Douglas fir	219.853	49.9
Grand fir	46.893	10.6
Western red cedar	30.624	6.9
Ponderosa pine	143.687	32.6

4) The total property is 70.0 acres in size. The timber component is 50.0 acres. The rest is in residential or pasture land. There is a major, grass surface, access road from the residential area into the north 40 timber portion. Some old skid trails within the entire timber portion of the property are open while others are overgrown and would need to be cleared prior to use. There are large open areas in the north-central and northeast areas that allow access to the timber without needing a skid trail. In future harvest operations those areas could be skidded through to scarify the ground prior to planting and to reduce the brush component. Access into the timber along the southwest portion of the property would come through the adjoining open field area.

5) There is very minor amount of Western larch within the property. The incidence and volume was too low to include in this volume calculation.

## APPENDIX A

### Timber Cruise Calculations

The timber cruise was conducted using a variable plot cruise method with a 20 factor prism. 42 plots were taken which resulted in 1 plot/1.19 acres. The number of trees sampled and counted per plot ranged between 0 and 10 with the majority of trees tallied containing 3 to 7 trees per plot. 106 trees total were measured (Diameter at Breast Height (DBH), total height, defect and grade) and an additional 55 were counted. 50.0 acres of timber were used for this volume estimation.

The timber cruise resulted in the following volumes:

#### **Douglas fir:**

Total Gross volume sawlogs	246.055 MBF
Total Net volume sawlogs before breakage:	231.424 MBF
Total Net volume sawlogs after breakage:	219.853 MBF

#### **Grand fir:**

Total Gross volume sawlogs & pulp:	61.127 MBF
Total Net volume sawlogs before breakage:	49.361 MBF
Total Net volume sawlogs after breakage:	46.893 MBF
Total volume pulp logs:	6.433 MBF

#### **Western red cedar:**

Total Gross volume sawlogs	36.251 MBF
Total Net volume sawlogs before breakage:	32.236 MBF
Total Net volume sawlogs after breakage:	30.624 MBF
Total volume cedar products:	2.534 MBF

#### **Ponderosa pine:**

Total Gross volume sawlogs :	162.036 MBF
Total Net volume sawlogs before breakage:	151.250 MBF
Total Net volume sawlogs after breakage:	143.687 MBF

The Gross volume is the overall sawlog volume for each species.

The Net volume before breakage is the gross sawlog volume minus any observed defect volume in the sample trees.

The Net volume after breakage is the net volume minus 5% of that volume to compensate for hidden defect and breakage of the timber during harvest operations. Breakage occurs because of trees that have hidden defect that causes a tree to split or fall wrong when it is harvested. Trees that are damaged during skidding or loading operations also results in less than desired lengths.

Breakage is normal and 5% is an acceptable figure though less than that is obviously desirable. The total net volume sawlogs after breakage are the volumes used for this estimation.

Section 050.04 of the Idaho Forest Practices Act (IDFPA) requires that a certain amount of acceptable residual trees be left after harvesting to ensure the continuation of a healthy stand of trees. If you do not leave adequate stocking than the persons or entities that directed the volume to below the minimal stocking are required to reforest the property within 5 years after harvesting. (050.06.b.). In reality if you practice long term forest management you would not take off all the available timber at one time. Since there is a very productive cedar habitat type and a good grand fir habitat type, you would leave the higher quality, vigorous stems to put on additional growth and to provide a seed source for genetically superior regeneration. Most of the timbered portions of the property currently require a commercial thinning to remove the low grade and high risk stems along with a minor amount of overstory removal. Currently, the heavy brush and grass components in the understory precludes the establishment of adequate regeneration. If all the commercial timber was removed the property would not meet the stocking requirements of the IDFPA. Currently, south aspect unstocked open areas, along with north aspect areas that have a heavy brush understory, if desired, could be treated and planted to suitable timber species to capture the property's full growth potential and to increase species diversity.

Section 030.07.e.v. of the IDFPA requires a certain amount of live or newly established trees be left within a 30' buffer zone along class II streams to provide filtering and shade affects for the watercourse. There is one draw along the south boundary of the 40 acre parcel in section 22 that feeds into the pond that would require these trees to be left. Compliance with this requirement could be met by leaving the defective DF and GF along the riparian zones of that stream. Most of the shading and filtration is provided by the stream side vegetative growth along with the ninebark, snowberry and ocean spray deciduous brush found in that area.

## Appendix B Timber Quality

### LOG GRADES

**Pin knot:** Live, sound knot not over ½".

**Small knot:** Live, sound knot, over ½" but not over ¾".

**Medium knot:** Live, sound knot, over ¾" but not over 1½".

**Large knot:** live, sound knot, over 1½".

**B & Better Lumber:** Highest grade, primarily clear, two tight knots permitted based on a 1' x 8" x 12" piece.

**#1 saw:** 90% surface clear, will mill B& Better Lumber to an amount of not less than 50% of the net scaled content, minimum length 16'.

**#2 saw:** 30-50% surface clear, will mill construction or better for 65% of net scale or B & Better Lumber for 25% of net scale. Minimum length 12', minimum scale 60 board feet. Some knots up to 2 ½", minimum log diameter 12".

**#3 saw:** Will mill Standard or Better Lumber, for 33 ¾ of gross scale. Minimum length 12', minimum scale 50 board feet, minimum diameter 6". Some knots to 3" in diameter.

**#4 saw:** Less than minimum diameter and/or volume to Grade #3 saw, but will make 33 ¾ of gross volume in merchantable material.

**Yellow pine grade:** Ponderosa Pine with 2 or 4 quarters that are clear and adjacent. Veneer quality must be 20" or more on the small end.

**Bull pine grade:** Ponderosa pine with 50% or less surface clear, knots range from pin to large in size, suitable for shop grade quality lumber or less.

The timber quality volume and percentage for each species in the stand is as follows:

<u>Species</u>	<u>Net volume (MBF)</u>	<u>Percent species volume</u>
Douglas fir		
#2&Btr	4.014	1.8
#3-4 saw	215.839	98.2
Grand fir		
#3-4 saw	46.893	87.9
Pulp	6.433	12.1
Western red cedar		
#3-4 saw	30.624	92.4
Cedar products	2.534	7.6
Ponderosa pine		
#2&Btr	5.452	3.8
#3-4 saw	138.235	96.2

- The WRC sawtimber is located along the southwest boundary and in the north and northwest portions of the property. It is important that the west boundary be definitively established since there is some high value WRC along that border. The better quality PP is located in the southwest portion of the property and in the upper, open slope areas of the north-central area. These areas contain self-pruning PP that would be a superior seed source for future regeneration planting projects.
- The DF on the south facing slopes has a high taper factor and tends to top out around 80 feet in height no matter the DBH. The best DF is found on the north aspect areas along the north portion of the property and in the WRC area in the northwest corner. That DF has a very low taper factor which results in a better form class. It also grows taller, 80' to 90' plus, even when the trees have a DBH less than 15". These north aspect areas should receive the highest priority when any future commercial harvesting, precommercial thinning, site prep and planting projects are planned.

## Appendix C

### Additional notes

- The slope ranges from 0 - 35%, average 19%. All this property can be harvested with ground-based equipment.
- The tree canopy ranges from 20 - 94%, average 57%.
- The aspects are primarily South to SW and North to NW which account for 74% of the aspects. The remainder are easterly aspects or None.
- The primary habitat type is *Abies grandis*/*Physocarpus malvaceus*. (grand fir/ninebark). This habitat is found on the southeast to southwest facing slopes, primarily in the central portions of the 40 acres located in section 22. It is a good habitat for growing PP and DF. The best habitat type is found on the north slope areas throughout the property, especially along the north border. That habitat type is: *Thuja plicata*/*Clintonia uniflora*, (western red cedar/queencup beadlily). It is one of the highest productive habitat types in the entire state and is very well suited for growing WRC, WL, WWP, ES, GF and DF in commercial amounts.

Habitat types are used to classify the productivity of a site. They are classified by an association between a climax overstory species and a climax understory species. If the site were left undisturbed, then eventually these two species would take over the site and would be the only ones to keep reproducing successfully. All other species would be crowded out or relegated to a very minor role on the site. The habitat types found on this property and listed above have a high to very high productivity rating. It is a very good site for timber production.

- The terrain ranges from a draw bottom to ridge tops. The primary topographic feature are upland straight slopes. The lower portion of the slopes in the central portion of the property north of the draw and southeast of the old blue pickup contain a large amount of the native camas plant. (*Camassia quamash*) They were beginning to bloom at the time of this stand exam and historically were a valuable food source for the indigenous peoples in this region.
- Only the north 40 acre portion of this property is classified by the Latah county assessor as timberland. The 10 acres of timber in the lower 30 acres are taxed at a higher rate than necessary. A new owner would have to file a new Latah County Forest Management Plan and sign the declaration that are managing the timber for an eventual future commercial timber harvest. By developing that plan they could place the entire 50 acres of timber into the timber taxation category and change the timber taxation method. Doing that would help reduce their overall property tax bill annually.

## APPENDIX D

### Abbreviations and Definitions

Ac or ac: Acre	DF: Douglas fir
ES: Engelmann spruce	ESE: East southeast
GF: Grand fir	IDFPA: Idaho Forest Practices Act
LPP: Lodgepole pine	MAI: Mean annual increment
NNE: North northeast	NW: Northwest
PAI: Periodic annual increment	PCT: Precommercial thinning
PP: Ponderosa pine	RMJ: Rocky Mountain Juniper
SAF: Subalpine fir	SSE: South southeast
TPA: Trees per acre	WH: Western hemlock
WL: Western larch	WNW: West northwest
WRC: Western redcedar	WWP: Western white pine

#### **Timber classes:**

Seedling.....less than 1" diameter  
Sapling.....1" to 4" dbh  
Pole.....4.1" to 8" dbh  
Sawtimber  
    Small.....8.1" to 14" dbh  
    Medium.....14.1" to 19" dbh  
    Large.....19.1" to 30" dbh  
    Overmature.....30"+ dbh

LST: Large sawtimber

MST: Medium sawtimber

SST: Small sawtimber

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