

1. Acres of timberland by supervisory area. Focus from Maggie Creek north (area of potential acquisitions), include other areas to show total endowment timberland ownership.

Supervisory Area	Total Endowment Timberland Acres
Priest Lake	155,552
Pend Oreille Lake	96,178
Mica	45,005
St. Joe	146,859
Ponderosa	74,296
Clearwater	116,361
Maggie Creek	84,059
Payette Lakes	105,725
Southwest	71,726
Eastern	120,178
Total	1,015,939

Supervisory areas are listed in the table generally north (top of table) to south. The acreage shown is approximate and includes primary and secondary base acreage. The area of interest for endowment timberland acquisition is from Maggie Creek to the north (highlighted in green). This part of Idaho has the combination of highly productive timberland and a robust forest products industry to provide strong timber markets.

The map on page 2 shows the IDL Supervisory Areas and the associated endowment land ownership. The map depicts all endowment lands, not just timberland, but does not depict lands recently disposed or acquired. It is mostly accurate and included to generally depict endowment land ownership.

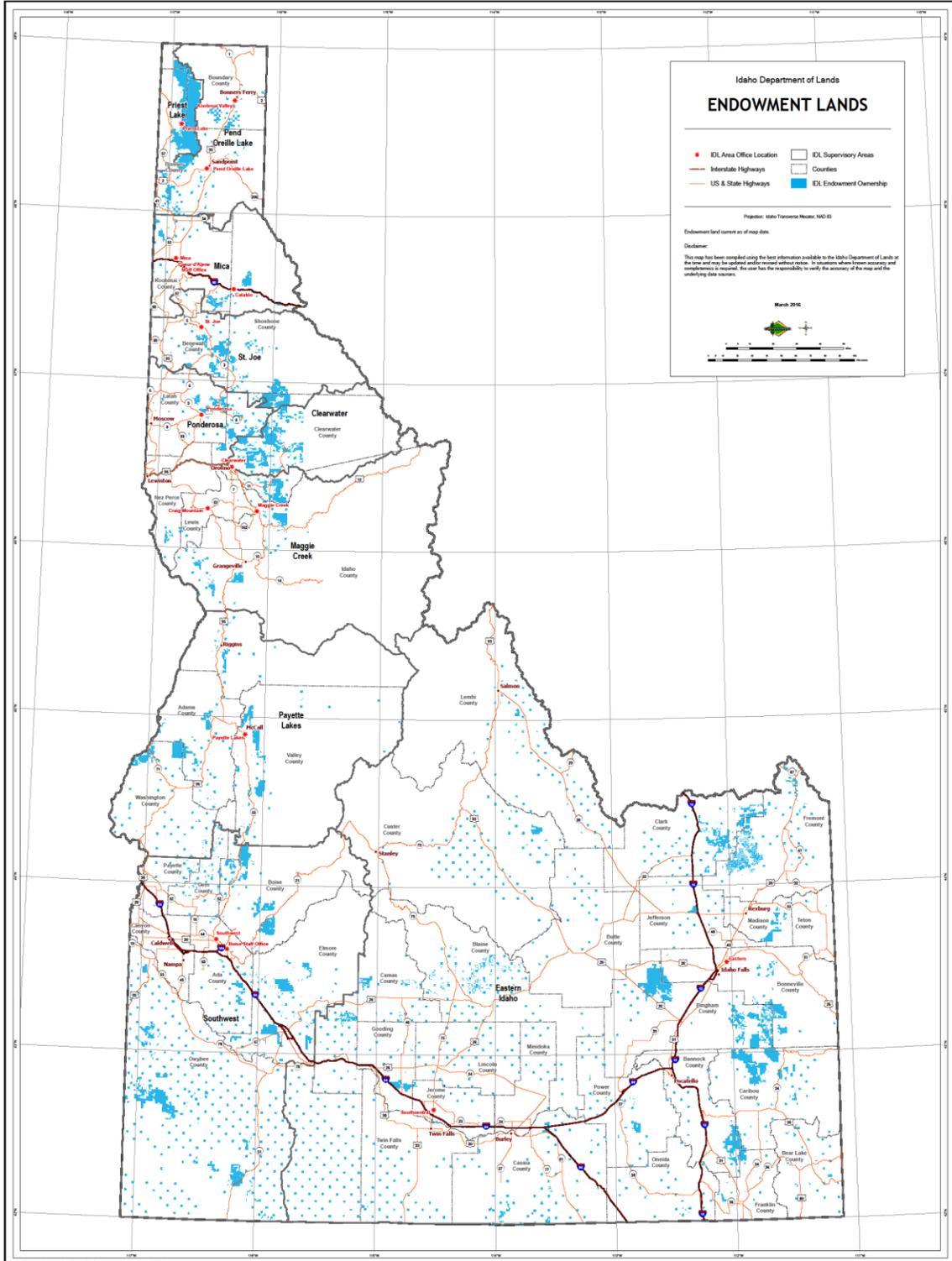
2. What is a "ballpark" per acre cost for timberland acquisition?

Cost of timberland acquisition on a per acre basis is obviously variable based on the region, site productivity, merchantable volume, topography, timber markets, haul distance, species composition, landowner objectives, and other factors. In very general terms, timberland in Idaho may range from \$500 to \$5000 per acre depending on the factors listed above. For land with little merchantable volume but desirable site productivity, per acre prices of \$800 to \$1,500 are common in 2019.

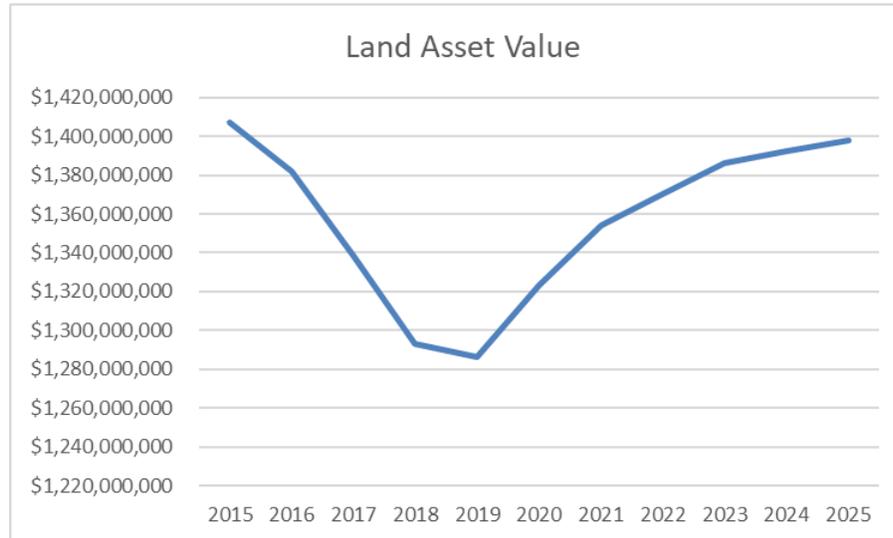
Assuming about \$150 million is available for acquisitions, and assuming a rough average price per acre of \$1,200, about 125,000 acres could be acquired. The land bank funds are the direct result of disposition of endowment land assets.

If the land bank balance is assumed to reach \$150 million from the present \$115 million, when \$50 million in completed acquisitions and \$47 million previously transferred to the permanent

fund are added, the result is that nearly \$250 million of land assets will have been disposed. The Department believes that land value, rather than acreage, is the correct way to measure acquisitions and dispositions. Under the most optimistic reinvestment scenario, the endowments will hold less land value than prior to the current disposition cycle.



The chart below shows the value of endowment land assets during the disposition cycle from 2015 to present and the potential effect of reinvestment into land assets from 2019 to 2025.



The goal of reinvestment is to recapture or replace the lost value of land assets (and the associated revenue) through the reinvestment of proceeds into land assets.

The ongoing disposition of land assets has and will have a number of impacts. For the affected endowments, gross income has declined by about \$8.6 million to date while net income has declined by \$6.4 million. Permanent fund returns are estimated to increase by about \$1.9 million annually (\$47 million with 4% net real return). For the counties where the dispositions have occurred, tax receipts have increased by about \$920,000 with a corresponding decrease in the tax rate (not including commercial real estate dispositions in Ada County).

In Idaho, there are 16,600,000 acres of productive timberland that are generally available for harvesting.¹ Of that acreage, 77% is owned by the federal government, 7% by the state, and 16% by private owners. Effectively, there are 2,656,000 acres of privately-owned timberland with a substantial percentage owned by industrial companies. Potential acquisition of about 125,000 acres represents less than 5 percent of the privately-owned timberland. Further, there are over 15.9 million acres of private land in Idaho. Acquisition of 125,000 acres of timberland would represent less than 0.008 percent of private lands.

¹ Simmons, Eric A.; Hayes, Steven W.; Morgan, Todd A.; Keegan, Charles E., III; Witt, Chris. 2014. Idaho's forest products industry and timber harvest 2011 with trends through 2013. Resour. Bull. RMRS-RB-19. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

3. Describe availability of transactions/desirability of Idaho timberland. For example, while west coast timberland may be more productive, the price for Idaho timberland would be relatively less as a result.

Timberland on the west coast in Oregon and Washington, with a long growing season and ample precipitation, is generally more productive than Idaho timberland. However, timberland in central and north Idaho is highly productive with rotation ages of 50 – 60 years commonplace. Idaho can also claim favorable business and political climates for the forest products industry. Highly productive timberland combined with a robust forest products industry and the resulting markets make Idaho timberlands attractive to institutional investors. Finally, the per acre price of Idaho timberland would typically be proportionately lower than timberland on the west coast.

Private industrial companies continue to acquire large acreage of Northwest timberland. As recently as January 2018, Pope Resources purchased 20,000 acres in southwest Oregon and 16,900 acres in western Washington. In Idaho in 2017, Molpus Woodland Group sold 28,300 acres to other industrial companies, Potlatch and Stimson (the endowments could not compete with the price paid for that timberland).

Many of the industrial companies have reorganized their timberland into Real Estate Investment Trusts (REITs) or Timberland Investment Management Organizations (TIMOs).² REIT and TIMO ownership structures account for over 1,000,000 acres of timberland ownership.³ Callan notes that TIMOs are undergoing change from manager disruption that could result in selling timberland and giving IDL a more selective inventory.⁴

TIMOs and REITs operate very differently from endowment timberland ownership and management. Part of their strategy includes disposing of higher and better use (HBU) parcels to capture value and improve return on investment. Much of the land available for sale retains very little merchantable timber, thereby making the land less valuable for acquisition for TIMOs and REITs. Conversely, the endowments can utilize the acreage with sub-merchantable trees to

² Real Estate Investment Trusts allow "individual investors to earn a share of the income produced through commercial real estate without have to own the property." U.S. Sec. and Exch. Comm'n, *Fast Answers* (Jan. 17, 2012), <https://www.sec.gov/fast-answers/answersreitshtm.html>. Timberland Investment Management Organization "is a management group that aids institutional investors in managing their timberland investment portfolios." Once a TIMO finds property it is responsible for managing the timber "to achieve adequate returns for the investors." Timber Investment Management Organization – TIMO, INVESTOPEDIA, <https://www.investopedia.com/terms/t/timo.asp>, (last visited on April 25, 2018).

³ Simmons, Eric A.; Hayes, Steven W.; Morgan, Todd A.; Keegan, Charles E., III; Witt, Chris. 2014. Idaho's forest products industry and timber harvest 2011 with trends through 2013. Resour. Bull. RMRS-RB-19. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

⁴ Callan Associates Inc., *Strategic Reinvestment Plan*, IDAHO DEP'T LANDS 7 (May 2016), <https://www.idl.idaho.gov/real-estate/reinvestment/051716-strategic-reinvestment-plan-final.pdf>.

fill inventory gaps, making this timberland excellent for acquisition by the endowments who already hold billions of board feet of large trees.

The Strategic Reinvestment Plan developed by Callan in 2016 addressed availability of potential transactions due to changes in the timberland sector as follows:

Market dynamics in the timberland industry include increasing transaction flow. There have been several large institutional portfolios of timberland brought to the market in the U.S. Several closed-end commingled funds are nearing their expirations, which will result in timberland for sale. Additionally, multiple timberland investment organizations are undergoing changes which could result in additional deal flow from manager disruption and terminated vehicles. The environment with substantial availability of properties for sale and projected to be for sale may help to moderate pricing. The availability of transactions is in marked contrast to prior years and the Land Board should take advantage of the increased transaction flow.

In the early 2000's there was a high level of commitment activity to U.S. focused timberland funds. Many of these funds have reached the end of their legal life and still have remaining timberland assets to be sold. Given the challenges in the recent market cycle and the long term nature of the timberland asset class and timber lifecycle, the ten year life has proved an insufficient time frame to roundtrip a strategy and exit all assets. As a result there are many groups of fund investors determining extension provisions for their funds and a certain level of dissatisfaction or frustration with the lack of disposition activity to date.

Based on information from a recent timberland request for information, Callan estimates that there is \$9.5 billion in timberland commingled fund holdings that are currently within two years or beyond the legal fund term life. The expiring funds may result in a fair amount of investment opportunities coming to market.

4. Determination of the hurdle rate – are lands and financial calibrated in the same way? Are we using the same yardstick?

Callan established the hurdle rates as part of the Strategic Reinvestment Plan. The hurdle rates were established with the intent that any new acquisitions should be accretive. The chart below from the Strategic Reinvestment Plan shows the rationale used by Callan. Each acquisition of timberland must achieve at least 3.5% net real to exceed the long term policy objective.

Table 3: Summary of Investment Options for Land Bank Proceeds

	Financial Assets Permanent Fund	Idaho Farmland	Idaho Timberland
Consistent with Investment Policy and Objectives	Yes	Yes	Yes
Long Term Policy Return Objective (Net) ⁴	4.0% Real 6.25% Nominal	4.0% Real 6.25% Nominal	3.0% Real 5.25% Nominal
Minimum Hurdle Rate for New Investments (Net)	N/A	4.5% Real	3.5% Real
Potential to Replace Income	Yes	Yes	Yes
Strategic Asset Class in Asset Allocation	Yes	No	Yes
Market Fundamentals	Continued Volatility	Weakening in Short Term Strong Long Term	Choppy in Short Term Strong Long Term
Expected Availability of Transactions	High	Medium	High
Internal Expertise	High	Medium	High
Implementation Complexity Implementation Costs	Simple Low	Complex High	Complex High

In Callan's asset allocation study, the existing timberland portfolio had an expected net 10-year compounded return of 5.70% (3.45% net real return). The recommended Hurdle Rate for Timberland is a *minimum* net real return of 3.5% which equates to a 5.75% net nominal return, assuming 2.25% inflation. Any acquisition of timberland at 3.5% net real or higher would therefore lift the performance of the timberland asset class. The hurdle rate has not been adjusted to account for any changes to Callan's capital market expectations or inflation expectations.

Callan has established 3.5% net real as somewhat of a point of indifference. From Callan's perspective, timberland returns at that level or below make the financial assets more attractive. However they have also stated that "**As expected land yields move toward 4.5%, land reinvestment becomes more compelling relative to the financial assets.**" (Excerpt from Callan's presentation to the Land Board regarding reinvestment and the small endowment study in 2018 – emphasis added).

The Department has not made acquisitions at 3.5% net real on behalf of the endowments. Completed acquisitions have comfortably exceeded that level with returns ranging from about 4.3% net real to over 5%.