MINNESOTA
OFFICE OF SCHOOL TRUST LANDS

MEMO

To: **Permanent School Fund Commission**

From: **Aaron Vande Linde, School Trust Lands Director**

Date: **October 11, 2024**

Re: **Return on Investment Analysis – BWCAW Project**

The State of Minnesota and USDA Forest Service have been working to remove school trust lands from within the Boundary Waters Canoe Area Wilderness (BWCAW). Recently, both agencies decided to pivot to a new transaction structure – condemnation of all 80,000+ acres of school trust lands. This transaction pivot resurrected a lingering debate regarding what is legally required by federal and state laws[1] and more importantly what is in the long-term best interests of the Permanent School Fund beneficiaries. The debate centers around the language in Section 5 of the Wilderness Act requiring that the Forest Service either provide adequate access or exchange "Wilderness inholdings" for equal value lands outside the BWCAW boundaries.

Background Information

The milestones below offer a summary of the ongoing efforts to remove school trust lands from the BWCAW after passage of the 1964 Wilderness Act and subsequent establishment of BWCAW boundaries through the 1978 BWCAW Wilderness Act. Both public laws instruct the federal agencies to address the rights of private and state inholdings within the wilderness area. The relevant clause states

> Sec. 5. (a) In any case where State-owned or privately owned land is completely surrounded by National Forest lands within areas designated by this Act as wilderness, such State or private owner shall be given such rights as may be necessary to assure adequate access to such State-owned or privately owned land by such State or private owner and their successors in interest, or the State-owned land or privately owned land shall be exchanged for federally owned land in the same State of approximately equal value under authorities available to the Secretary of Agriculture: Provided, however, That the United States shall not transfer to a State or private owner any mineral interests unless the State or private owner relinquishes or causes to be relinquished to the United States the mineral interest in the surrounded land.

See Public Law 88-577, 78 Stat. 890 as amended; 16 U.S.C. 1131(note), 1131-1136)

Minnesota's congressional delegation requested a federal purchase in a 1997 letter to the Secretary of Agriculture. In a subsequent 1997 letter to Congressman Oberstar, Minnesota's state legislators representing the Iron Range opposed a 100% federal purchase

[1] See attached FAQ document regarding BWCAW projects.

and indicated their interest in pursuing a 100% land exchange. These communications were followed by an Office of Legislative Auditor "School Trust Land Program Evaluation Report" that recommended Minnesota Dept. of Natural Resources continue to pursue compensation for the school trust lands within the BWCAW.

In 2003, the University of Minnesota – Duluth completed an appraisal of 5,280 acres of state-owned lands within the BWCAW near Trout Lake in St. Louis County. The appraised value at that time was $3.9 million, or approximately $738 per acre; or $63.5 million when extrapolated across the ~86,000 acres of school trust lands. The USDA Forest Service declined to proceed with a 5,000-acre exchange, and informed DNR Commissioner Garber that the Forest Service must first consider the impact of the total exchange of all 86,000 acres of school trust land in the BWCAW before initiating any land exchanges.

Between 2009 and 2010 the Minnesota legislative Permanent School Fund Advisory Committee established a working group to review and develop recommendations related to federal candidate parcels for exchange as well as the transaction structure. The advisory committee recommended the transaction be framed as a hybrid model – one-third land exchange and a two-third land sale. This recommendation led to the passage of 2010 Senate Resolution No. 1 recommending the "hybrid model" and passage of Minnesota Statutes 92.80 and 92.82 expediting both an exchange and sale.

Minnesota Dept. of Natural Resources formally proposed the one-third land exchange in August 2012, which triggered an initial feasibility study and subsequent environmental impact statement as required by the National Environmental Protection Act. Between August 2012 and August 2021, the State and USDA Forest Service obtained federal appropriations totaling $51 million for the federal acquisition, completed seven (7) appraisals all of which were approved for agency use for both the exchange and sale, finalized a programmatic agreement related to future management, and prioritized federal parcels for exchange based on criteria in Minn. Stat. sec. 92.80.

From August 2021 to December 2023, all parties, which by now included The Conservation Fund and the Private Forestland Alternative exchange (aka Plan B), worked to resolve some underlying concerns with the appraised values through the federal appraisal reconciliation process. These efforts proved fruitless. The State and Forest Service determined that the one-third federal land exchange and two-third Plan B exchange were no longer feasible. This determination left one avenue available – state condemnation of all school trust lands followed by direct sale to the USDA Forest Service pursuant to Minn. Stat. sec. 92.82.

Analysis of Return on Investment

The analysis below does not provide legal advice or interpretation of the 1964 Wilderness Act other than to state that the Forest Service position is that the passage of the 1964 Wilderness Act and 1978 BWCAW Act does not restrict its ability to acquire lands pursuant to other public laws such as the 1911 Weeks Act. (*Information concerning the USDA Forest Service's position is available in the FAQ document attached to this memo.)*

Additionally, even though there are known mineral deposits valued in the billions on school trust lands, this Return on Investment (ROI) analysis does not factor in potential mineral value as no mineral developer has obtained the necessary permits to mine. That is, the mineral value is too speculative in nature to analyze as a potential revenue stream.

To analyze the ROI for both the industrial forest land and financial investments it is necessary to compare the annual returns from each investment option. The analysis below outlines the assumptions and ROI formula for each option.

Investment in Industrial Forestland

The forestland ROI heavily depends on the cost assumptions and yield per acre. If costs are lower or yields are higher, the ROI from forest management could improve. Conversely, if market conditions for timber worsen or costs rise, the losses could be more substantial. Additionally, for purposes of this analysis 100% of the forestland acres are assumed to be contributing to the harvest volumes even though some proportion of the acres may not be merchantable or marketable as a timber sale. The analysis does not consider non-financial benefits of forestland management, such as environmental or social values. The following assumptions have been used to calculate the ROI.

1. Initial Investment of $30 million
2. Acreage Acquired 35,000 acres
3. Stumpage Rate of $28 per cord
4. Harvest Volume 20 cords per acre
5. Rotation Age of 50 years
6. Management 75% of gross revenue

Step 1: Calculation of Annual Timber Revenue

Total Timber Yield = Land Area (×) Timber Yield per acre

700,000 cords = 35,000 acres (x) 20 cords/acre

Assuming a rotation age across all cover types at 50 years

700,000 cords (/) 50 years = 14,000 cords per year

Gross Revenue = Total Annual Timber Yield (×) Stumpage Rate

$392,000 per year = 14,000 cords per year (x) $28 per cord

Gross Annual Timber Revenue = $392,000

Step 2: Calculate Annual Net Revenue

Net Revenue = Gross Revenue (×) Percentage of Management Costs

$98,000 = $392,000 (x) .75

Net Revenue over 50 year rotation age = $4.9 million

Step 3: Calculate ROI for Forest Land

The Return on Investment can be estimated using the following formula.

ROI = Total Value of Forest Investment (–) Initial Investment / Initial Investment

Total Value of Forest Investment = $34,900,000 (-) $30,000,000 / $30,000,000

ROI = $34,900,000 (-) $30,000,000 / $30,000,000

ROI = 0.16%

Investment in Stocks and Bonds

The future value formula assumes a constant rate of growth and a single up-front investment. The future value is based on a steady rate of return, which may not be realistic in today's market. It also does not consider inflation or changes in interest rates. As such, there are two analyses below utilizing two different return rates – one at 6.91% and one at 3.5% or roughly half of the 10-year average return rate from 2014-2023. Both analyses calculate future value using a compound interest formula over the investment period of 50 years.

Option 1 – 6.91% Rate of Return

1. Initial investment $30 million
2. Annual rate or return 6.91% (10-year average rate of return for PSF)

Step 1: Calculate Annual Returns from Stocks and Bonds

Annual Value = $30,000,000 (x) 1.0691 = $32,073,000 per year

Step 2: Calculate Future Value at year 50

Future Value = Initial Investment (x) (1 + rate of return)$^{\text{time period}}$

FV = $30,000,000 (x) (1.0691) (x) compound interest over 50-year period

Value at Year 50 = $847.3 million

Step 3: Return of Investment

ROI = Total Value of Investment (–) Initial Investment / Initial Investment

ROI = $847,300,000 (-) $30,000,000 / $30,000,000

ROI = $817,300,000 (-) $30,000,000 / $30,000,000

ROI = 27.24%

Option 2 – 3.5 Rate of Return

1. Initial Investment $30 million
2. Annual rate of return 3.5% (roughly half of 10-year average rate of return)

Step 1: Calculate Annual Returns from Stocks and Bonds

Annual Value = $30,000,000 (x) 1.035 = $31,050,000 per year

Step 2: Calculate Future Value at year 50

Future Value = Initial Investment (x) (1 + rate of return)$^{\text{time period}}$

FV = $30,000,000 (x) (1.035) (x) compound interest over 50-year period

Value at Year 50 = $167.55 million

Step 3: Return of Investment

ROI = Total Value of Investment (–) Initial Investment / Initial Investment

ROI = $167,500,000 (-) $30,000,000 / $30,000,000

ROI = $167,500,000 (-) $30,000,000 / $30,000,000

ROI = 4.58%

Conclusion

Investing in stocks and bonds yields significantly higher returns compared to investing in industrial forestland, both in absolute terms and in annualized return on investment. The

forestland investment has a low return over a very long period, while the compounding effect in the stock market drives substantial growth over time.

Depositing land sale proceeds into the Permanent School Fund, in contrast to acquiring additional acreage, produces greater long-term financial gains and is the superior investment strategy as it meets the statutory goal to “secure the maximum long-term economic return” from school trust lands. . However, non-financial factors like land conservation, timber production, and environmental benefits might also play a role in the decision for the forestland investment. Further data and economic analysis will be necessary to determine any impacts to local and regional economies from a proposed acquisition of forestlands.