

September 1, 2020

Alaska Roadless Rule
USDA Forest Service
Alaska Region
P.O. Box 21628
Juneau, Alaska 99802-1628



Re: New Information Reveals Errors in USFS Cost-Benefit Analysis of the Alaska Roadless Rule

Dear Rulemaking Team:

Taxpayers for Common Sense would like to provide written documentation of several significant concerns with the Regulatory Impact Assessment (RIA) accompanying the proposed rule, “Special Areas, Roadless Area Conservation: National Forest System Lands in Alaska” (RIN: 0596-AD37), published on October 17, 2019. These concerns include computational errors and analysis design flaws that invalidate the RIA as an accurate assessment of costs and benefits as required by Executive Orders 12866 and 13563.

The Forest Service cost-benefit analysis (CBA) suffered from simple mathematical errors as well as a glaring omission. There are two critical computational errors.

- First: improperly inflated historical sales data to 2019 dollars when computing harvester cost savings, resulting in two times the amount of savings than should have been calculated.
- Second: incorrectly “discounted” costs and cost savings associated with the various alternatives over a 20-year window when tabulating net present value, resulting in a roughly three-fold overstatement of harvester savings and costs to recreation and tourism industries.

In addition to these miscalculations the analysis does not include potential costs associated with timber harvest in roadless areas even though the Draft Environmental Impact Statement rightly points out that new road construction involves substantial costs and has the potential to strongly influence timber sale economics.

The result of these miscalculations and omissions is a grossly misleading assessment of costs and benefits across the alternatives. The two specific errors described below have the compounding effect of overstating harvester cost savings by nearly seven times. In order to be compliant with the requirement of the National Environmental Policy Act (NEPA), the Forest Service cannot proceed with this rulemaking unless and until these problems are corrected. Given the significance of the errors in this analysis and the stated importance to the decision of improving the Forest Service’s ability to offer economic timber sales, *see, e.g.*, DEIS at 2-21, 3-153, a correct analysis must be presented to the public before proceeding to a decision.

Because these issues were only apparent after receiving documents from the Forest Service on August 11, 2020, we were unable to include them in our [comments](#) submitted on December 16, 2019. We believe proceeding with the rulemaking based on a record that includes an erroneous cost-benefit analysis would

undermine any subsequent final rule's ability to provide for a "long-term, durable approach to roadless area management," as the Forest Service intends.¹

Thank you for considering our concerns in the review of the Alaska Roadless Rule.

A handwritten signature in black ink, appearing to read "Steve Ellis". The signature is stylized with a large "S" and "E".

Steve Ellis, President

Attachment:

Explanation of Errors in the Cost-Benefit Analysis (CBA)

Analysis Design Flaws

¹ U.S. Department of Agriculture, Forest Service – Proposed Rule "Special Areas; Roadless Area Conservation; National Forest System Lands in Alaska," October 17, 2019, at 84 FR 55524.

Explanation of Errors in the Cost-Benefit Analysis (CBA)

The omission of relevant costs from the CBA defies the imperative from Executive Order 12866 to “assess all costs and benefits of available regulatory alternatives,” and the intent of Executive Order 13771 to contain regulatory costs, and thus thoroughly compromises the approach adopted in the RIA.² That omission aside, the costs and cost savings the Forest Service does include in the CBA are inaccurately calculated and consequently misstated in the RIA.³ There are two critical computational errors, namely that the Forest Service: improperly inflated historical sales data to 2019 dollars when computing harvester cost savings; and, incorrectly “discounted” costs and cost savings associated with the various alternatives over a 20-year window when tabulating net present value.

Improper Adjustment for Inflation

The Forest Service derives its estimate of the proposed rule’s benefits by comparing agency calculations of harvester costs for timber sales in the period 2003-2010, when the 2001 Roadless Rule was not implemented in Alaska, to harvester costs for timber sales from 2011 to 2018, when the Roadless Rule protections were in place. That is, the agency avoids the available direct approach of estimating harvesters’ costs when operating in roadless areas compared to roaded areas and then projecting potential harvests in roadless areas under the proposed rule.

Nevertheless, from its assessment of these two periods, the Forest Service concludes:

Cost per thousand board feet (MBF) in the 8 years before and after 2011 provide a useful means for comparison. In the period during the exemption (2003 to 2010) the average cost per MBF harvested was \$220 while the average cost was \$265 per MBF over the period when roadless restrictions were in place (2011 to 2018) (USDA Forest Service 2019b).⁴

The difference between the costs in the two periods (\$45/MBF) is then multiplied by the expected harvest level under the 2016 Tongass Land Management Plan (46MMBF/yr.) and one standard deviation lower (24MMBF/yr.) to generate a range of potential benefits from the rule.⁵

In a footnote, the Forest Service states, “Average costs for both periods were deflated to 2019 dollars prior to averaging.”⁶ This is the source of the agency’s mistake – accounting for inflation is necessary, but it was not accurately calculated.

Notably, the source documentation for the Forest Service cost calculations was unavailable to the public during the public comment period for the proposed rule in contravention of Executive Order 13563.⁷ A document titled “R10 timber sales before after 2011 Roadless ip 112219” was posted to the project record dated January 17, 2020 – one month after the comment period closed on December 16, 2019 – but it remains inaccessible to the public due to technical error.⁸

² Executive Order 12866, “Regulatory Planning and Review,” October 4, 1993 at 58 FR 51735.

³ Referring to Table 6, “Net-Present Value of discounted (over 20 years) timber industry cost-saving and potential costs associated with recreation displacement under the regulatory alternatives,” at RIA, p. 35.

⁴ RIA, p. 30-31

⁵ MMBF = million board feet

⁶ Footnote 5, RIA, p. 31

⁷ Executive Order 13563, “Improving Regulation and Regulatory Review,” Sec. 2(b). Published January 21, 2011 at 76 FR 3822.

⁸ The spreadsheet was obtained from Forest Service personnel only upon request on August 11, 2019.

In the source documentation, no treatment of inflation as referenced above is presented. Instead, the nominal averages of \$203.1/MBF in the 2003-2010 period and \$258/MBF in the years 2011 to 2018 are reported. To properly account for inflation, the cited costs for each sale must first be adjusted to 2019 dollars, then averaged using the volume of timber in the sales as weights. The table below presents the results of such an adjustment using either the Consumer Price Index for all Urban Consumers (CPI-U) or the GDP Implicit Price Deflator (GDP-DF):

2003-2010	fell yd load \$/MBF (nominal)	fell yd load \$/MBF (\$2019_CPI-U)	fell yd load \$/MBF (\$2019_GDP-DF)
2003	205.4	285.4	279.4
2004	180.4	244.2	238.9
2005	210.7	275.9	270.7
2006	249.3	316.2	310.8
2007	197.2	243.1	239.4
2008		0.0	0.0
2009	169.7	202.3	200.6
2010	225.0	263.8	262.8
AVG per year	203.1	265.5	260.8

2011-2018	fell yd load \$/MBF (nominal)	fell yd load \$/MBF (\$2019_CPI-U)	fell yd load \$/MBF (\$2019_GDP-DF)
2011	231.0	262.6	264.3
2012	231.0	257.2	259.3
2013	352.2	386.5	388.6
2014	291.9	315.2	316.2
2015	165.3	178.3	177.4
2016	265.0	282.3	281.4
2017	258.0	269.1	268.9
2018	195.4	198.9	198.9
AVG per year	258.0	280.0	280.9

As seen in the above tables, the difference between harvester costs in the two periods is at most \$20/MBF, when calculated using the GDP-DF, rather than \$45/MBF as the RIA reports. This mistake alone leads the Forest Service to overstate cost savings associated with the considered alternatives as more than double their actual level.

Incorrect Net Present Value Calculation

As noted above, the Forest Service applies the erroneous \$45/MBF difference between average harvester costs in the two periods to annual expected harvest levels in the Tongass to generate annual cost savings associated with the alternatives. The Forest Service concludes that \$1-2 million in annual cost savings can be expected under Alternatives 2-6.⁹ The Forest Service separately finds that Alternatives 2-6 will generate \$77,000 in lost revenue for recreation and tourism businesses operating in the Tongass. Over 20 years, the estimated cost savings would amount to between \$21.6 million and \$41.4 million, and the costs would total \$1.54 million in 2019 dollars, with no discounting. The Forest Service reports the net present value (NPV) of the cost savings as \$30-\$91 million and the NPV of the costs as \$3 million. Discounted values should not exceed time-indifferent values.

As explained by Office of Management and Budget Circular A-4, the timing of costs and benefits expected from a given action needs to be taken into account because, “Benefits or costs that occur sooner are generally more valuable.”¹⁰ As further specified in OMB Circular A-4, agencies are encouraged to account for timing differences by using real discount rates of 3% and 7% per year for expected costs and benefits in out-years. The NPV of cost and cost savings for the proposed rule and alternatives calculated using discount rates of 3% and 7% are presented below:

Correct Net Present Value (NPV) Calculations Assuming Forest Service Values of Annual Cost Savings (Costs)

Forest Product Industry - cost savings	Annual Cost Savings (Costs)	NPV of Cost Savings (Costs) over 20-ys.	NPV from RIA Table 6
Upper Bound (46 MMBF/yr. harvest)	\$2,070,000		
3% Discount Rate		\$30,796,373	\$91,000,000
7% Discount Rate		\$21,929,609	
Lower Bound (24 MMBF/yr. harvest)	\$1,080,000		
3% Discount Rate		\$16,067,673	
7% Discount Rate		\$11,441,535	\$30,000,000
Recreation/Tourism - cost of displacement			
	(\$77,000)		
3% Discount Rate		(\$1,145,566)	(\$3,000,000)
7% Discount Rate		(\$815,739)	(\$2,000,000)

As indicated in the above table, the Forest Service dramatically overstates both the cost savings and costs in its CBA. In fact, the only way to arrive at the Forest Service NPV totals is to multiply out-year cost savings (costs) by the discount factor raised to the appropriate number of years rather than divide by the discount factor raised to the appropriate number of years.¹¹ This mistake demonstrates a profound

⁹ More precisely, the Forest Service methodology produces a range of harvester costs savings of between \$1.08 million and \$2.07 million per year.

¹⁰ OMB Circular A-4, “Regulatory Analysis,” September 17, 2003, *Discount Rates* section, subsection 1.

¹¹ E.g. Using a 7% discount rate for the \$2.07 million in cost savings 20 years out:

misunderstanding of why discounting is used in regulatory analyses and how to appropriately calculate NPV.

The two computational errors described above have the compounding effect of overstating harvester cost savings by nearly seven times. Estimated harvester cost savings derived from properly adjusted historical data correctly discounted over 20 years is presented below in comparison to the Forest Service values:

Correct Net Present Value (NPV) Calculations Using Properly Adjusted Cost Savings Data

Forest Product Industry - cost savings	Annual Cost Savings (Costs)	NPV of Cost Savings (Costs) over 20-yrs.	Forest Service NPV from RIA Table 6
Upper Bound (46 MMBF/yr. harvest)	\$920,000		
3% Discount Rate		\$13,687,277	\$91,000,000
7% Discount Rate		\$9,746,493	
Lower Bound (24 MMBF/yr. harvest)	\$480,000		
3% Discount Rate		\$7,141,188	
7% Discount Rate		\$5,085,127	\$30,000,000

At most, the NPV of estimated harvester cost savings over 20 years under the proposed rule using Forest Service assumptions is \$13.7 million (3% discount rate), not \$91 million as the agency reports. However, the wildly inaccurate calculations of NPV only obscure the more fundamental flaws in the Forest Service's approach, namely, the omission of road costs and agency costs in the analysis of potential costs and benefits of the proposed rule.

$$\begin{aligned}\text{Correct NPV} &= \$2.07 \text{ million} / (1.07)^{20} = \$534,927 \\ \text{Forest Service NPV} &= \$2.07 \text{ million} * (1.07)^{20} = \$8,010,247\end{aligned}$$

Analysis Design Flaws

In the Draft Environmental Impact Statement accompanying the proposed rule and the RIA, the Forest Service acknowledges that roadbuilding costs are likely greater in roadless areas. To wit,

While many factors can influence the cost of timber harvest, as noted above, areas along existing roads are typically more economically efficient, followed by areas where existing roads can be easily extended. Transportation infrastructure costs can include road construction, reconditioning, reconstruction, and maintenance, as well as log transfer facility development. *Road construction, reconditioning, reconstruction, and maintenance involve substantial costs and have the potential to strongly influence timber sale economics.*¹²

Yet the Forest Service does not attempt to capture the potential increased transportation costs associated with timber harvest in roadless areas. This failure contravenes multiple Executive Orders concerning the estimation of regulatory costs during agency rulemakings.¹³

From data in the record, it is evident that timber harvest in roadless areas requires more road construction than harvest in roaded areas. Using the Forest Service's approach of comparing harvest data in the period 2003-2010 to data for timber sales from 2011 to 2018, we find that roughly twice as many miles were built per million board feet of harvest in the period when Roadless protections were not in force. More roads relative to timber harvest levels will result in higher transportation costs associated with timber harvest in roadless areas.

The CBA calculations presented above provide an example of the agency's oversight. The costs for past timber sales used in the CBA are "stump to truck" costs. That is, they include the cost of "felling, yarding, loading, etc." as the Forest Service states.¹⁴ Such costs do not include necessary expenses associated with hauling, barging, rafting, or road maintenance and development. As the agency acknowledges, it is likely these costs would be significantly higher for timber harvests in roadless areas. Consequently, data capturing the "Stump to Mill" cost of past timber harvests in the Tongass, including road costs, would have been a more suitable measure for study.

The decision to forgo analysis of harvesters' roadbuilding costs under a proposed rule centered on the issue of where roads can be built is a critical failure in the rulemaking process. These additional roadbuilding costs are particularly important because of their potential to increase agency expenditures, and thus agency losses, for Tongass timber sales.

¹² RIA, p. 30, emphasis added

¹³ See E.O. 12866, 13563 and 13771

¹⁴ RIA, p. 30