

Data Submitted (UTC 11): 3/16/2025 4:00:00 AM

First name: Carol

Last name: Yarbrough

Organization:

Title:

Comments: I am very concerned about increasing logging on US Forest Service land. I am a citizen, not an expert, and I understand the difficulty of managing everyone's strong convictions. I understand we need logging, AND I am also confident we need CO2 sinks through healthy forests. Forests of the world are different. Pacific Northwest forests are CRITICAL to CO2 management for years to come. We need COMPLEXITY in our forests. Trees need to grow for 80 years before being cut, and we need small clearcuts. Thinning cannot mean cutting at 40 years, or cutting giant areas. Older trees lead to healthy forests and ecosystems, increasing the likelihood that a forest will resist fire.

I am also attaching a study from my economist friend Ernie Niemi who is an expert on the economics of forest management.

Please carefully consider the future of our forests.

Thank you.

ATTACHMENT-REFERENCE: NWFP Final Report 2025-0310.pdf; Deficiencies in the Socioeconomic Elements of the Draft Environmental Impact Statement (DEIS) for the Northwest Forest Plan Amendment (NWFP) By Ernie Niemi, 2025

Deficiencies in the Socioeconomic Elements of the Draft Environmental Impact Statement (DEIS) for the Northwest Forest Plan Amendment (NWFP) By Ernie Niemi 10 March 2025 In November 2024, the U.S. Forest Service (USFS) released its Draft Environmental Impact Statement (DEIS) for the proposed Northwest Forest Plan Amendment (NWFP). A central element of the proposal emphasizes increasing the predictable annual timber supply from NWFP lands, and the DEIS asserts that the increase will yield economic benefits by supporting jobs and businesses in local communities and strengthening the overall economies and sustainability of those communities. The DEIS, however, ignores a large body of evidence that indicates the proposed increase in timber production probably will have the opposite economic effect. This evidence shows that, today and for the foreseeable future, NWFP lands probably will support more jobs, businesses, and sustainable economic activity in local communities if left unlogged than if managed, as proposed, to provide a predictable increase in timber supply. Two factors underlie this conclusion: the economic benefits from increased logging probably will be small, but the economic costs probably will be high. Timber production is a small and declining component of the region's economy. Its ability to support jobs, businesses, and economic activity has declined for decades and likely will continue to decline into the foreseeable future. Against this backdrop, the proposed increase in timber supply from NWFP lands likely will yield few, if any of the desired economic benefits. In sharp contrast, NWFP lands left unlogged have supported and likely will continue to support

strong, sustainable growth in jobs, business, and economic activity. They do this by making important contributions to one of the region's most important economic strengths: a quality of life that hosts a large and vibrant outdoor recreation industry, and enables communities to attract and retain workers and new business. The proposed increase in predictable timber supply likely would weaken, perhaps reverse, these contributions. The loss of jobs, business, and economic activity likely would far outweigh any timber-related gains. The next two sections detail support for these conclusions. The first identifies some of the important economic evidence, ignored by the DEIS, that indicates the net economic impacts from an increase in timber production probably will be negative. The second then demonstrates that the DEIS relies on speculation, rather than on evidence, to support its conclusion that there is a socioeconomic "need" to increase the predictable timber supply from NWFP lands.

I. The DEIS ignores evidence that indicates the net economic impacts from an increase in timber production probably will be negative

The DEIS:

1. Ignores the negative impacts of timber production on other sectors of the economy.
2. Exaggerates the potential number of jobs from increased logging.
3. Ignores the costs timber production imposes on society.
4. Ignores the costs timber production imposes on taxpayers.

Negative Impacts of Timber Production on Other Sectors. The DEIS shows that the USFS recognizes NWFP lands generate jobs in different sectors: "Table 3-21 shows that in 2021 the identified Forest Service program areas supported an estimated 26,500 jobs and \$1.7 billion in labor income. The extraction and consumption of forest products (for example, timber and forage for grazing), recreation visitors, and agency operations (for example, agency salaries and equipment use) all contribute to employment and income in communities. [hellip] Viewed in terms of total jobs supported, recreation visitation is the largest contributor to the regional economy, supporting an estimated 12,551 jobs, followed by agency operations (7,070 jobs), and forest products (5,091 jobs)." [3-109] The DEIS does not, however, explain that there can be powerful tradeoffs: generating new timber production jobs can reduce jobs in other sectors. The evidence for this conclusion is broad, long established, and well-known among knowledgeable economists. For example, in 2003, more than 100 economists, including two Nobel Laureates, co-signed a letter describing the economic importance of the natural environment in western states.

1 The core message states: "Environmental Quality Is a Major Source of the West's Long-Run, Economic Strength" In the distant past, the West's natural resources were widely abundant and important to the economy primarily when they were converted into something else. We converted forests, mineral deposits, and streams into lumber, metals, and hydroelectricity; valleys, wetlands, and hillsides into agricultural and urban landscapes; and land, water and air into waste repositories. "Today, conditions have changed. [hellip] The structure of the western economy has changed. Though still important, extractive industries (logging, mining, and commercial fishing) and agriculture now play a smaller economic role because their ability to generate new jobs and higher incomes has declined. Across most of the West, a community's ability to retain and attract workers and firms now drives its prosperity. But if a community's natural environment is degraded, it has greater difficulty retaining and attracting workers and firms." The economic costs of environmental degradation are rising. As the West's population increases, so too do the damages (current and future) from exposure to hazardous pollution and the degradation of environmental amenities. As their habitats shrink, many native species face an increased risk of extinction. Reversing this trend becomes more expensive over time. As ecosystems are degraded, they provide fewer economically valuable services, such as cleansing the water in streams, and communities therefore must provide replacement services with water-treatment plants and other costly investments. "The economic benefits of protecting and restoring environmental quality are large and increasing. As the West's population increases, the West enjoys greater economic benefits by avoiding exposure to hazardous pollution, maintaining scenic natural vistas, extending the availability of recreational opportunities in clean environments and on public lands, and sustaining the existence of undeveloped lands and healthy ecosystems. "Misleading price signals slow economic growth. Inefficient pricing of many natural resources encourages waste and diminishes economic productivity by allocating resources to low-value uses, while higher-value uses languish. Subsidies to irrigation, logging, public land ranching, and mining prop up activities that would not take place under efficient, market conditions. [hellip] As these and related changes evolve, the economic health of western communities increasingly will depend on the health of the environment." [pp. 2-3, bold emphasis in original]

In 2011, more than 100 economists, including three Nobel Laureates, and academics in related fields co-signed another letter that reinforced the core message with these statements:

2 "The U.S. is now predominantly a service-based economy, and the fastest-growing regions are those that have been able to attract talented

workers, entrepreneurs, and investors across all sectors of the economy. In the West especially, public lands play a pivotal role in attracting and retaining people and businesses. This is the case for all sectors, including manufacturing. [hellip]"Today, one of the competitive strengths of the West is the unique combination of wide-open spaces, scenic vistas and recreational opportunities alongside vibrant, growing communities that are connected to larger markets via the Internet, highways and commercial air service. [hellip]"America's public lands can be used responsibly while expanding protections for the nation's world-class natural amenities. We urge you to create jobs and support businesses by investing in our public lands infrastructure and establishing new protected areas such as parks, wilderness, and monuments." [1] The DEIS recognizes that NWFP lands provide amenities that can affect the "Socioeconomic trajectories" of communities. [3-126 - 3-127] It does not, however, consider the research that indicates the influence of these amenities can far outweigh the influence of timber production. Nor does the DEIS present readers with evidence showing that timber production can diminish the influence of amenities, having negative impacts on jobs, incomes, economic wellbeing, and long-term sustainability that overwhelm any speculated, short-term impacts from the production of logs. Some of the evidence ignored by the DEIS shows that, by protecting federal forests from logging and enhancing environmental quality throughout the region, the NWFP has made significant contributions to the economic strengths economists called out in these two letters. These protections signaled immediate and persistent increases in the quality of life available to residents in the region, and supported the economies and the wellbeing of communities [mdash] urban and rural [mdash] throughout the region. For example, researchers found that proximity of small communities to protected federal forests in Oregon experienced higher median incomes, faster population growth, and higher property values.³ These benefits materialized even for communities that continued to exhibit high levels of timber-related activities. Protections for federal forests similarly supported economies and wellbeing of urban communities, with some of the benefit spilling over to rural communities. For example, as the favorable quality of life supported urban growth, it often generated higher tax payments that were transferred to rural communities to strengthen their schools, infrastructure, etc. Timber production also can have a negative impact on the value of opportunities for outdoor recreation on federal lands. The tradeoff is not trivial. Research on federal lands in the Snake River Basin, for example, found that their recreational value was 3-to-4 times the value of their timber value.⁴ A 1993 economic analysis found that the net economic benefit recreationists receive, over and above what they pay, for recreation activities on federal lands covered by the NW Forest Plan averaged about \$160 per acre (converted to 2013 dollars).⁵ This information, though dated, clearly shows there is a high likelihood that the benefits from managing the NWFP lands to provide recreational opportunities would far exceed value from managing the lands to convert trees into logs and stumps. The economic benefits from unlogged NWFP lands extend far beyond outdoor recreation. Economists and policymakers have long known that these forests provide amenities that boost the economies of nearby communities and larger regions by attracting many workers, households, and entrepreneurs. A 2013 recent analysis concluded that, on average, counties with more public land protected from logging and other extractive activities enjoy increased economic performance. After statistically controlling for the influence of other factors, the researchers found that, on average, a western county with 10,000 additional acres of protected public land exhibited higher average per capita income, faster growth in per capita income, and faster growth in non-labor per capita income.⁶ An even more recently completed review of this phenomenon found that amenities on public lands have been transforming the economies of communities across the West: "During the past three decades, rural communities in the American West have experienced significant economic restructuring, transitioning from extractive-based industries toward service-based economies. A major impetus for economic restructuring in the Western U.S. (hereafter, the West) has been amenity migration, a phenomenon in which people relocate to communities for physical and social amenities derived from an abundance of desired ecosystem services as opposed to simply following employment opportunities. These amenity migrants include footloose entrepreneurs, retirees, and people willing to trade income for a higher quality of life. [hellip] [P]ublic lands have consistently been shown to play a role in attracting amenity migrants."⁷ [Citations omitted for brevity] The last sentence of this text indicates that, by managing NWFP lands to produce attractive amenities, the Forest Service could encourage significant economic restructuring, transitioning away from extractive timber production and toward a service-based economy. In other words, by producing less timber and more conservation and restoration, the Forest Service could facilitate the transition of local communities away from an industrial focus that evolved in the 1800s and encourage economic

activities characteristic of the 21st Century. Much of the text and data in the DEIS, Section 3.8, asserts that increases in jobs will result from the proposed increase in logging on NWFP lands. The DEIS fails, however, to acknowledge the economic importance of not logging the NWFP lands. It fails to identify and explain economic harms that will materialize if the proposed increase in logging on these lands degrades environmental quality, i.e., if the logging increases exposure to hazardous pollution, degrades scenic natural vistas, restricts the availability of recreational opportunities in clean environments and on public lands, and diminishes the existence of undeveloped lands and healthy ecosystems. The vast research that underlies the two letters described above and highlights the direct impacts of the NWFP's protections from logging demonstrates there is a high likelihood that the proposed increase in logging will decrease, not increase jobs in local communities and throughout the region. Exaggerates the Potential Number of Jobs from Increased Logging. The DEIS compounds the failure to describe the potential job losses in other sectors likely to result from the proposed increase in logging by exaggerating the number of jobs the logging will generate in the timber sector. The DEIS offers this reassurance that increases in the predictable timber supply from NWFP lands will generate increases in jobs: "Under Alternative B, direct forest products jobs would range from 1.3 to 3 times the number of jobs under the No Action Alternative. Alternative D would result in similar but smaller increases, equivalent to 1.05 to 2.74 times the direct jobs supported by the No Action Alternative. Alternative C would, in contrast, result in a reduction in jobs relative to the No Action Alternative. Increases in estimated volumes and associated jobs in Alternatives B and D would help sustain existing workforce, facilities, and infrastructure, and in some cases could potentially encourage additional investment. These estimates of jobs that could be potentially supported by the removal of merchantable timber under each

alternative capture part of the overall economic activity that would be supported by the restoration actions proposed as part of each alternative." [ES-11] This statement shows the Forest Service recognizes the possibility that the proposed increase in timber supply from NWFP lands "could potentially encourage additional investment" in the timber industry's productive capacity. The DEIS then describes the potential jobs that would result from such an increase in productive capacity and output of forest products. But embedded in this statement is the possibility that the proposed increases in timber supply from NWFP lands would not encourage additional investment. When this occurs, the proposed increase in timber supply might have no impact on productive capacity. Such outcomes are common. Standard economic theory, plus extensive empirical research, indicate that introducing logs from the NWFP lands into the market might reduce log prices, so that those logs displace and take the place of logs that otherwise would enter the market from other lands.⁸ The net effect would be little or no increase in timber-related employment. The DEIS does not identify and investigate this possibility. This failure suggests that, all else equal, the DEIS exaggerates the actual number of jobs that would result from the proposed increase in timber supply from NWFP lands. The DEIS also exaggerates the positive impacts of timber production by failing to account for the likelihood that employers in the timber industry will continue to cut labor costs by cutting jobs. It also does not recognize the likelihood that cuts in employment within the Forest Service, now being implemented by the current administration, will have a negative impact on the number of jobs that might come from the proposed increases in timber supply from NWFP lands. This deficiency appears in the section, Jobs Supported by Changes in Timber Volumes by Alternative, with this statement: "Table 3-27 summarizes the number of jobs and amount of labor income supported by forest products-related national forest management activities under each alternative." [3-148] Encouragement for timber production from NWFP lands comes from those who assert that it is necessary to provide economic growth for rural communities and high-paying jobs for rural workers. The number of jobs for "loggers," an occupational category that includes "loggers, equipment operators, truck drivers, and fallers and buckers," hasn't shown much decline in recent years, but the introduction of logging machinery can displace as many as eight logger jobs.⁹ Moreover, loggers' wages are low: the average wage for Oregon's loggers has been about 15 percent below the statewide average for all jobs.¹⁰ In the past, these workers enjoyed wages as much as 30-40 percent higher than the statewide average, so the current relationship indicates that timber production has brought long-term economic decline, not growth, on rural workers and communities.¹¹ Figure 1. Timber Manufacturing Jobs per Log Have Been Declining Figures 1, 2, and 3 demonstrate the declining trends in timber-related jobs. Figure 1 illustrates the long-term downward trend for almost three decades in timber manufacturing employment per log in Oregon. Figure 2 shows dramatic reductions in jobs that can occur while timber harvest remains steady, with the industry in Oregon

permanently eliminating about one-third of manufacturing jobs as it recovered from the Great Recession. Figure 3 shows Washington's mining and logging industry and wood processing industry have eliminated jobs throughout the past 30 years, averaging almost 450 jobs per year over the period.¹² This evidence, and much more with similar findings, show that the DEIS overlooks the reality that the timber industry eliminates far more jobs than it creates. As it disregards this reality, the Forest Service, instead, offers predictions of future timber-related jobs based on a sophomoric assumption that the job-per-log relationship of the past will persist into the future. Thus, Table 3-27 rests on the assumption that if Alternative B were implemented, the Forest Service would produce 590 MMBF of logs per year and generate 394.6 jobs, year after year, without fail. [3-148] The DEIS ignores not just the realities of persistent elimination of jobs in the timber industry, it also ignores the influence of automation, a major factor that underlies the job losses. The DEIS, itself, provides evidence of this influence. Interviews cited in the DEIS demonstrate that transitions within the timber industry have dramatically weakened, perhaps erased, the relationship between log production and economic activity in nearby communities: "Another frequent theme involved automation in logging and milling occupations. Many participants suggested that automation was responsible for a significant reduction in job opportunities and an overall shift in the type of skills that employers seek." [3-138] In other words, automation suppresses the jobs and income resulting per unit of timber production. It lowers [mdash] perhaps eliminates [mdash] the likelihood that timber production on NWFP lands will have "significant socioeconomic, cultural, workforce, and financial impacts on communities and publics." Figure 2. Harvest Levels in Oregon Recovered After the Great Recession [hellip] But 10,000 Timber Jobs Were Eliminated

Logging Levels Recovered [hellip] [hellip] but Timber Manufacturing Jobs Did Not Figure 3. Washington's Employment in Mining & Logging and Wood Products Manufacturing Has Declined for the Past 30 Years. Recent research in Oregon shows a strong, negative statistical correlation between logging and economic indicators other than jobs. Specifically, counties in western Oregon with more logging have lower median wages, and a higher percentage of the population lives in poverty (Figure 4).¹³ These relationships have not been specifically tested for Washington and northern California, but there is no reason to anticipate that such tests would yield substantially different findings. In sum, the preceding paragraphs demonstrate the DEIS has not met the challenge of demonstrating that an increase in predictable timber supply on NWFP lands will improve the wellbeing of a town's residents or sustain the town's long-term sustainability. Instead, the DEIS ignores extensive evidence that shows an increase in predictable timber supply from these lands likely will have large, negative socioeconomic impacts on communities throughout the region. Many of the negative impacts will materialize as timber production increases the acreage of stumps and logging roads on federal lands, and increases the number of log trucks on forest roads and on nearby highways. These increases likely will decrease the forests' contribution to the high quality of life that a large number of economists consider a primary source of economic strength for western states. The decrease might be especially harsh for communities proximate to NWFP lands. By being closest to stumps rather than intact forest, and with the highest number of log trucks roiling through town, they might experience the most severe decline in quality of life and, hence, be cut off from this economic strength. When this occurs, the proposed increase in timber production likely will punish rather than reward the communities the DEIS says need an increase in predictable timber supply from NWFP lands. Ignores the Costs Timber Production Imposes on Society. The DEIS acknowledges that timber production can increase the release of carbon dioxide into the atmosphere, thereby contributing to climate change: "In general, management regimes that promote older forest with relatively low levels of harvest, similar to the NWFP, can yield higher carbon sequestration rates compared to more intensive management approaches." [3-90, citation omitted for clarity and brevity] Figure 4. In Counties in Western Oregon with Significant Timber Harvest, More Logging Correlates with Lower Wages and More Poverty. It also claims that timber harvest can reduce carbon emissions from wildfire, but only if the harvest occurs in the right time and place, which are difficult if not impossible to predict accurately: "[T]imber harvest in more fire-prone forests yields mixed results in total carbon management, with studies showing mixed results on the long-term carbon storage benefits of fuel reduction treatments, depending on how well recently treated stands reduced fire-severity. At a landscape scale, fuels reduction treatments can decrease total carbon stored unless treatments are strategically placed in the areas with highest likelihood of fire." [3-90, citation omitted for clarity and brevity] The DEIS, however, never provides readers with estimates of the amount of carbon that likely would end up in the atmosphere as a result of timber production. Nor

does it describe for readers the economic harm those emissions would impose on society. The DEIS never explains why it looks away from these issues, even though the information needed to inform readers about them is readily available. For example, Oregon produces about 4,000 million board feet of timber (Figure 2) and generates about 35 million metric tons of atmospheric carbon dioxide,¹⁴ or about 8,750 tons per million board feet. Recent research shows each ton will cause economic damage of at least \$200 and probably more than \$1,000.¹⁵ These numbers indicate that, if the Forest Service produces 1,000 million board feet of timber per year from NWFP lands, the economic damage therefrom likely would exceed \$8 billion. This number far exceeds the potential value of the logs: recent prices have been about \$800 per thousand board feet, so the total value of one billion (equal to 1,000 million) board feet of logs would be about \$800 million. Thus, with the proposed increase in timber production, the value of the logs likely would be less than ten percent of the climate-related costs that the timber production would impose on society. The DEIS provides none of this information. Moreover, the DEIS fails to explain that the atmospheric carbon dioxide from the proposed increase in timber production will kill people. A recent, exhaustive survey of peer-reviewed research concluded that it is reasonable to anticipate one human death will result from each 3,700 metric tons of carbon dioxide added to the atmosphere.¹⁶ Data for Oregon indicate that the production of 1,000 million board feet of timber from NWFP lands per year would generate about 8,750,000 metric tons of atmospheric carbon dioxide, resulting in the death of about 2,400 humans. Other research indicates the number could be ten times larger, or 24,000 deaths per year.¹⁷ A complementary perspective on the carbon-related costs resulting from timber production comes from research by scientists at Oregon State University, who looked at the potential effects on the amount of carbon stored on matrix lands under different scenarios that vary the intensity of conservation and logging activities.¹⁸ The two bookend scenarios are:¹⁹ [bull] Thinning and fire restoration scenario. This scenario assesses the impact of continuing to manage the matrix lands in a manner similar to how they have been managed to date under the NW Forest Plan. It entails restoring the natural/pre-settlement fire regime, and allowing logging only to thin overstocked stands. [bull] 60-year rotation scenario. This scenario assesses the impact of managing the matrix lands for industrial timber production, with a harvest rotation length of 60 years. The analysis modeled the effects through 2100 on all components of carbon storage/release: live vegetation, dead vegetation and charcoal, soil carbon, and manufactured products derived from wood. The results for matrix lands in Oregon clearly show that continued conservation of the matrix lands would increase the amount of carbon stored, while industrial logging would reduce it and release CO₂ into the atmosphere (Figure 5). The published results of the research indicate that the simple average difference between the two scenarios is about four metric tons of CO₂ per acre per year over the period through 2100. These findings are consistent with other research that emphasizes the importance of conserving mature forests as an effective means for keeping carbon dioxide out of the atmosphere.²⁰ Figure 5. Annual Net Carbon Balance on Oregon's NWFP Matrix Lands under Timber-Production and Conservation Alternatives In sum, the DEIS tells readers timber production on NWFP lands will increase atmospheric carbon dioxide, but then provides no information to let them know the magnitude and significance of the increase. It does not explain that just the climate-related economic cost from timber production likely would far exceed the economic value of the logs, and additional costs likely would materialize through negative impacts of logging on water, recreational opportunities, and other goods and services from an unlogged forest. Nor does it explain that increased timber production on NWFP lands will exacerbate the significant human health impacts, including deaths, from climate change. Ignores the Costs Logging Imposes on Taxpayers. During the 2nd-half of the twentieth century, the importance of comparing timber values with logging costs was illustrated by numerous studies that documented instances where logging on national forests produced timber that was worth less than the total costs to taxpayers.²¹ A follow-up analysis, in 2019, found: [bull] "[These lands play a unique ecological role because they represent islands in a sea of heavily damaged lands managed by states and private landowners. [hellip] [bull] "One of the key justifications for ending the logging program on national forests is so they can serve as a buttress against the extinction threat posed by industrial tree plantations. [bull] "Because of their unique role and limited suitability, logging on national forest lands is uneconomical. [bull] "Our analysis finds that the logging program on national forests continues to lose money for taxpayers in the range of \$1.3 to \$1.5 billion per year. [bull] When additional federal logging subsidies related to fire suppression and BLM losses are included, the total exceeds \$1.8 billion per year.²² The DEIS disregards all of these findings. More fundamentally, it never attempts to help readers understand the implications of its proposal: taxpayers would bear a heavy financial

burden if there were increases in predictable timber production on NWFP lands. It never even mentions the issue.

II. The DEIS relies on speculation rather than evidence to support its conclusion that there is a socioeconomic "need" to increase the predictable timber supply from NWFP lands. Evidence contained in the DEIS, itself, demonstrates that the "need" for a predictable supply of timber from NWFP lands stems from speculation, not evidence. These deficiencies invalidate using this variable—predictable supply of timber from NWFP land—to define, evaluate, and compare alternatives.

Speculated "Need." The DEIS includes this explanation to insert predictable timber supply into "need" for the NWFP: "Purpose and Need for Action. Need. This process is driven by the need for the Forest Service to adapt their management strategies to current and future challenges. The preliminary need to amend land management plans in the NWFP area described in the Notice of Intent focused on five interrelated topic areas: [ellip] Providing a predictable supply of timber and non-timber products and other economic opportunities to support the long-term sustainability of communities located proximate to National Forest System lands and economically connected to forest resources." [ES-2] This statement implies there is a pressing need to provide a predictable supply of timber to support the long-term sustainability of some communities. The Executive Summary, builds on this theme, laying the foundation for defining alternatives based on their ability to increase the predictable timber supply: "Overall plan direction under Alternative B (across all NWFP amendment themes) is broadly designed to improve the consistency and reliability of timber harvest [ellip] that support local job opportunities, businesses, and economies" [ES-5] Information on subsequent pages of the DEIS, however, does not substantiate that this "need" exists. The follow-up to Table 3-21. Estimated annual employment and labor income by program area, 2021, the DEIS states: "these jobs are not distributed evenly across the region and may be important to smaller, rural communities that have less diverse economies and fewer economic opportunities than communities with larger populations." [3-110] This statement boldly demonstrates that the USFS does not know if there are any jobs linked with timber production on NWFP lands that are important to smaller, rural communities. Instead, it speculates that jobs associated with timber production on NWFP lands "may be important" to some communities. [Bold emphasis added to highlight the speculative foundation of this element of the DEIS.] The DEIS does not identify these communities. It does not define the criteria and procedures the Forest Service would use to identify them if the NWFP were implemented. It does not demonstrate that an increase in predictable timber production from these lands will have a positive impact on jobs for residents of such communities, if there are any. It does not show that an increase in predictable timber production from these lands will have a positive impact on the economies and sustainability of such communities, if there are any. On the same page, the DEIS reinforces the conclusion that speculation is the basis for asserting that there is a "need" for increasing the predictable timber supply. The section, 3.8.1.4 National Forest Regional Economic Contributions states: "national forest management alone cannot ensure community stability. Market conditions and changes outside the control of forest management influence employment in the forest products, agricultural, and recreation industries (Charnley et al. 2018a, Grinspoon, in press)." [3-110] This statement demonstrates that the USFS knows an increase in predicted timber production from NWFP lands might not produce the desired outcome: "economic opportunities to support the long-term sustainability of communities located proximate to National Forest System lands and economically connected to forest resources." Moreover, it disregards extensive evidence, discussed above, that shows an increase in predictable timber supply from these lands likely will have large, negative socioeconomic impacts on economic opportunities and on the long-term sustainability of communities proximate to NWFP lands.

In section 3.8 Issue 7 - Sustainability of Regional Communities, the DEIS adds inaccurate and misleading context for the agency's attempt to connect timber production with sustainable communities, using this statement: "The Notice of Intent published for the NWFP amendment stated that development and implementation of the NWFP has had significant socioeconomic, cultural, workforce, and financial impacts on communities and publics. The NWFP has largely not achieved its timber production goals, which were the NWFP's primary criteria for supporting economies and community wellbeing." [3-99] This statement suggests that, because it "has largely not achieved its timber production goals" the NWFP has not supported "economies and community wellbeing." In making this statement, however, the USFS disregards the evidence described above, which shows that, by not achieving its timber production goals and leaving lands unlogged, the NWFP probably strengthened the economic sustainability of many communities and improved the economic well-being of their residents. It also fails to recognize that the DEIS, itself, presents additional evidence of the likelihood that levels of

logging on NWFP lands do not directly contribute to economic sustainability and well-being. This evidence comes from reports of interviews with community members: "Most interviewees, regardless of their role in community life, noted how the complexity of social and economic change factors and their interaction with changes in federal forest management made it nearly impossible to attribute changes specifically to the NWFP instead of to larger state, regional, and national trends (Adams and Grinspoon, in press." [3-109] In other words, residents of rural communities recognize that other factors, rather than the supply of timber from federal lands, determine the economic wellbeing and sustainability of those communities. This recognition highlights the likelihood that an increase in predicted timber supply might have little, or even no "significant socioeconomic, cultural, workforce, and financial impacts on communities and publics." Invalid Alternatives. These deficiencies similarly apply to and erode confidence in the definition and evaluation of alternatives. The DEIS states, "Overall plan direction under Alternative B (across all NWFP amendment themes) is broadly designed to improve the consistency and reliability of timber harvest[hellip] that support local job opportunities, businesses, and economies." [ES-5] The discussion above, however, shows it is speculative, at best, for the DEIS to contend that improving "the consistency and reliability of timber harvest" will provide any meaningful positive "support local job opportunities, businesses, and economies." As a result, the definition and analysis of DEIS alternatives with different levels of predictable timber supply is an exercise in speculating about differences in levels of speculation. These profound conceptual and empirical deficiencies leave Section 3.8 Issue 7 - Sustainability of Regional Communities [3-99 - 3-155] with no substance, no merit. III. Conclusion In sum, the DEIS fails to provide a comprehensive, assessment of the socioeconomic impacts from those elements of the NWFP that call for increases in predictable timber supply. Instead, it converts speculation into assertion. The DEIS sets aside evidence and common sense to dismiss the likelihood that industry will persist with its decades-long effort to eliminate labor costs and, instead, asserts that the jobs and incomes per log will remain constant forever. In the process, the DEIS ignores a vast body of research and data that shows increased timber production probably would yield: [bull] No net increase in jobs. [bull] Substantial reduction in jobs resulting from the adverse impacts of timber production on other sectors of local and regional economies. [bull] Large net costs to taxpayers. [bull] Even larger overall costs for communities, the region, and society as a whole.

1 Whitelaw, E., ed. 2003. A Letter from Economists to President Bush and the Governors of Eleven Western States Regarding the Economic Importance of the West's Natural Resources.

2 Whitelaw, E., ed. 2011. Letter to President Barack Obama.

3 Chen, Yong, David J. Lewis, and Bruce Weber. 2016. Conservation Land Amenities and Regional Economies: A Post-matching Difference-in-difference Analysis of the Northwest Forest Plan. *Journal of Regional Science*.

4 Haynes, R.W., N.A. Bolon, and D.T. Hormachea. 1992. The Economic Impact on the Forest Sector of Critical Habitat Delineation for Salmon in the Columbia and Snake River Basin. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. General Technical Report. PNW- GTR-307. November.

5 Forest Ecosystem Management Assessment Team (FEMAT). 1993. Forest Ecosystem Management: An Ecological, Economic, and Social Assessment. This report also reports the average recreation value per acre of lands with different characteristics. It shows, for example, a value of about \$100 (converted to 2013 dollars) for [ldquo]semiprimitive[rdquo] and [ldquo]natural roaded[rdquo] lands. It does not, however, explain why the average value per acre is less than the average value per acre per year. The following discussion relies on the per-year numbers, as they appear to reflect more closely the underlying data on the recreational consumer surplus per person per day of activity.

6 Rasker, R., Gude P.H., and Delorey, M., 2013. The Effect of Protected Federal Lands on Economic Prosperity in the Non-Metropolitan West.

7 Hjerpe, E., A. Hussain, and T. Holmes. 2020. Amenity Migration and Public Lands: Rise of the Protected Areas.

8 Prestemon, Jeffrey P., and Thomas P. Holmes. 2008. [ldquo]Timber Salvage Economics.[rdquo] T.P. Holmes, et al. (eds) The Economics of Forest Disturbances: Wildfires, Storms, and Invasive Species.

9 Wilson, J. 2017. Into the Woods: How the Logging Industry Is Courting Millennials.

10 Rooney, B. Oregon[rsquo]s Forestry and Logging Industry: From Planting to Harvest.

11 Lerner, Josh. 2017. Oregon[rsquo]s Timber History, An Update.

12 St. Louis Federal Reserve. 2021. All Employees: Mining and Logging in Washington; and All Employees: Durable Goods: Wood Products Manufacturing in Washington.

13 Talberth, J., 2017. Modernizing State Forest Practices Laws to Halt and Reverse Deforestation. West Linn, OR: Center for Sustainable Economy.

14 Talberth, J., Carlson, E, 2024. Forest Carbon Tax and Reward [ndash] Regulating Greenhouse Gas Emissions from Industrial Logging and Deforestation in the US. Environment, Development and Sustainability.

15 Social cost of carbon dioxide = \$200 per ton (EPA. 2022. EPA External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances.). Social cost of carbon dioxide = \$1,000 per ton (Bilal, A., and D.R. Kanzig. 2024. The macroeconomic Effect of Climate Change: Global vs. Local Temperature. National Bureau of Economic Research.

16 Pearce, J.M., and R. Parncutt. 2023. Quantifying Global Greenhouse Gas Emissions in Human Deaths to Guide Energy Policy. Energies.

17 Tierstein, Z. 2024. Climate Change Has Killed 4 Million People Since 2020 [ndash] and That[rsquo]s an Underestimate, Grist; and World Economic Forum., 2024. Climate Crisis May Cause 14.5 Million Deaths by 2050. Website.

18 Krankina, O.N, M.E. Harmon, F. Schnekenburger, and C.A. Sierra. 2012. Carbon Balance on Federal Forest Lands of Western Oregon and Washington: The Impact of the Northwest Forest Plan. Forest Ecology and Management.

19 The other three scenarios are: [bull] 120-yr rotation. Assumes logging would occur as planned for matrix lands under the NWFP.[bull] 200-yr rotation. Assumes logging would continue to occur as it has actually occurred 1994.[bull] Thinning only. Assumes the same thinning assumptions as the thinning and fire restoration scenario but with a continuation of current fire-suppression policies.

20 See, for example, Mackey, B., and othersl. 2013. Untangling the Confusion Around Land Carbon Science and Climate Change Mitigation Policy. Nature Climate Change.

21 See, for example, Alkire 1994; Gorte 1994; Hanson 1999; McKetta 1994; O'Toole 2002; Oppenheimer 2001; Rice 1989; U.S. General Accounting Office 1998); Alkire, C. 1994. Financial Losses from Logging on National Forests, FY 1993. The Wilderness Society; Gorte, R.W. 1994. Below-Cost Timber Sales: Overview. Congressional Research Service, Library of Congress. CRS Report for Congress. 95-15 ENR; Hanson, C. 1999. Ending Logging on National Forests: The Facts. The John Muir Project; McKetta, C.W. 1994. Socio-Economic Implications of a Below-Cost Timber Program on the Wallowa-Whitman National Forest [Analysis Was Commissioned by: The Combined County Commissioners of Union and Wallowa Counties State of Oregon];

O'Toole, R. 2002. Reforming the Fire Service. Thoreau Institute; Oppenheimer, J. 2001. In the Red: National Forest Logging Continues to Lose Millions. Taxpayers for Common Sense; Rice, R.E. 1989. National Forests Policies for the Future: The Unaccounted Costs of Logging. The Wilderness Society; U.S. General Accounting Office. 1998. Forest Service Distribution of Timber Sales Receipts, Fiscal Years 1995 Through 1997. GAO/RCED. 99-24.

22 Talberth, J. and E. Niemi. 2019. Environmentally Harmful Subsidies in the U.S.: Issue #1 [ndash] The Federal Logging Program. Center for Sustainable Economy and Natural Resource Economics.