

Data Submitted (UTC 11): 3/17/2025 4:00:00 AM

First name: Trygve

Last name: Steen

Organization:

Title:

Comments: This submission is complete, unlike my earlier submission.

2025 NWFP EIS INPUT:

Hello US Forest Service Representatives,

I am submitting this comment on the Draft Environmental Impact Statement (DEIS) for the Northwest Forest Plan (NWFP) Amendment, 2025.

I have spent significant time on the ground observing management in every National Forest in the Northwest Forest Plan area, from 1970 through the present.

I have done observations over time on National Forests in this region's major eco-regions: the Siuslaw, the Siskiyou, the Willamette, and the Deschutes.

I have done extensive photographic documentation in all of these forests.

I have also documented private and State of Oregon forest practices.

I have taught forest ecology for over 45 years at Portland State University, and for most of those years I have taught at a facility in the Willamette N.F.

I am presently studying plant recovery in the area burned by the Beachie Creek fire in the Little North Santiam drainage in the Willamette Nat. Forest.

Having witnessed the significant social and political tensions* that preceded the herculean effort to produce the original Northwest Forest Plan, I deeply appreciate that the Clinton Administration was willing to support that process. The vital synthesis forest service workers plus their associated scientific community accomplished as they set in motion the original Northwest Forest Plan was a huge accomplishment. This process produced very advanced thinking for its time in history. We are now confronted with the substantial responsibility of revising a new, modified plan to shape our forest management actions into the future, while coping with and anticipating the impacts of climate change.

* See photo that will be uploaded separately, Photo shows protesters attempting to intimidate loggers from felling trees as they ran through the forest during a Clear-cut being done under the "1995 Salvage Rider" on the Umpqua National Forest, in the "First Timber Sale" (Photo Spring of 1996)

In their book, "The Making of the Northwest Forest Plan - - The Wild

Science of Saving Old Growth Forest Ecosystems", three highly significant members of that original planning team (K. Norman Johnson; Jerry F. Franklin; and Gordon H. Reeves) relate the important story of that original plan's creation. They also provide significant insights for the future in their closing chapter "A Path Forward". As outstanding scientists, they clearly understand - that this region's complex, mature and old-growth forest ecosystems, contain answers to questions which we have only progressively learned how to ask. Following are a few important quotes from their book:

"Logging of mature and old-growth forests lacks ecological justification."

"We understand the importance of mature forests much better today than when the NWFP was developed in 1994, and that knowledge clarifies the desirability of retaining rather than logging them."

"Also, most mature forests within the NWFP are in the transient snow zone. This zone is the primary contributor to rain-on-snow events that cause major floods on the west side. Mature forest canopies help reduce the

magnitude of such floods; clearcuts and young forests exacerbate these events"

(Note, during the rain-on-snow event that caused the major 1996 flood event in Oregon, I was in the air surveying the Willamette Valley as well as the Mt Hood and Willamette National forests, during its peak when it nearly flooded downtown Portland. I observed not only the incredible inundation caused by that flood, but also the huge volume of chocolate brown flood-waters that contained the lost soil from countless landslides in the clearcuts of the Willamette National Forest - - soil that would no longer be there to continue to grow the new trees in that disturbed landscape.)

". . . The dynamic nature of the Pacific Northwest forest ecosystems means there is the potential for major losses of existing old-growth and mature forests - another argument for keeping the mature forests that now exist. The Oregon wildfires of 2020 were a strong reminder of the need to conserve existing mature forests as replacements for the hundreds of thousands of acres of older forest habitat that have been, and will be lost to disturbances."

"It is time to cease logging of older, unmanaged Moist Forests on national forests - both mature and old-growth. . . .

These unharvested older forests are too valuable ecologically, socially, and spiritually to allow their elimination through logging."

Their final chapter, "A Path Forward" (Pages 358-392) contains much highly significant wisdom in addition to my limited quotes above. Please do carefully study those pages for their substantial wisdom and insights. Remember as President Clinton included in his remarks that began the original Forest Ecosystem Management Assessment Team (FEMAT)/NWFP effort, "our efforts must be, insofar as we are wise enough to know it, scientifically sound, ecologically credible, and legally responsible."

BRIEFLY, ABOUT THE EIS ALTERNATIVES (2025):

ALTERNATIVE A as the "No Action" alternative clearly needs changing, especially given the growing and continuing impacts of Climate Change.

ALTERNATIVE B contains significant beneficial features that come from a native American perspective - which are very worth retaining. Unfortunately, it includes too much emphasis on logging and not enough protections for mature and old-growth forests. Therefore, I feel it definitely should be selectively adopted. I especially object to weakened protections for trees as old as 120 years in relation to Alternative B; that change is an error in my view and is the likely result of a compromise that will have significant adverse forest ecosystem impacts.

ALTERNATIVE C has hope for being the most protective for mature and old-growth forest ecosystems. I appreciate the features that involve lowered use of mechanized processes for management actions, as well as your other summarized actions. However, it is still clearly not enough. I have substantial concern over the general lack of clear commitment for protection of all historic Late Successional Reserve forests and their underlying soils. Modern industrial logging practices have severe impacts on the fundamental soil resource that enables us to grow trees. National forests need to take special care to protect their soil resource better than occurs in industrial forests. Since National Forests are often in locations with steeper slopes and more difficult soil conditions, there is even more reason to manage with the longest possible rotations. The biodiversity crisis and the role of old forests needs more attention and care.

ALTERNATIVE D involves too much of a swing toward "active forest management" along with too much focus on predictability of timber outputs. Forced quotas of log outputs have been a major problem in the past, and I am deeply concerned about a return to arbitrary production quotas that our forests can't reliably support.

CONCERN OVER RECENT LOGGING QUOTAS: Recently, I have seen mature and old-growth forests undergo lowered protections because of increased pressure to meet logging quotas. This has been revealed in a document provided in response to a recent environmental group FOIA request. This is most unfortunate, given that the rest of my presentation in this EIS response, I emphasize the great importance of mature and old-growth forest protection.

TOPICS WITH GENERAL RELEVANCE AND ESPECIALLY ALTERNATIVE C:

CARBON SEQUESTRATION AND STORAGE: For the westside forests of the Pacific Northwest, protecting ALL old-growth and mature forested areas would bring significant benefits for CARBON SEQUESTRATION, STORAGE, and BIOMASS ACCUMULATION. All of these are important features of old forest carbon storage. The climate change implications of protecting all mature and old-growth forests are profound. That set of actions is the most significant that can be taken in relation to this planning process, which is why Alternative C represents the best start for a future plan. It will be especially important to include strong protections for mature trees over 80 years old in climate change related forest protections. At 80 years, trees are within the age range where carbon

sequestration becomes more effective (and it is after most industrial forests have already been logged). Old forest protections will become especially crucial in the decades ahead, because the current and increasing impacts of climate change are already resulting in significant numbers of both human and forest tree deaths. Given the difficulty of completely eliminating future fossil fuel use, the capacity of forests to sequester and store that additional carbon dioxide will be truly essential. Carbon storage is an especially important function for larger, older trees - - not the small trees in plantations. Clearly, the role of mature and old-growth forests for carbon fixation and storage needs to be a priority for forest management into the future.

NEED TO RECOGNIZE THE IMPORTANCE OF GENETIC BIODIVERSITY:

It is vitally important to recognize the genetic diversity present in the trees of our mature and old-growth forested ecosystems. These trees represent a genetic heritage that has stood the test of time. This genetic diversity represents the effects of natural selection for local adaptations that will be indispensable for the future of our forests. The National Forest's mature and old-growth forests began life long before our current genetically limited plantations that have grown in replanted clearcuts. (We may even need to cautiously facilitate tree migration northward by using tree seedlings adapted to hotter climates for planting in future more northern locations.) Protecting the National Forest's genetic diversity by not logging mature and old-growth trees is essential for meeting President Clinton's challenge for our planning process to be "Scientifically sound, ecologically credible, and legally responsible."

LSR LAND AREA NEEDS EXPANSION TO FURTHER BIODIVERSITY PROTECTIONS: Please note, I do not find clear language indicating that there will be full AND continuing protection for the Late Successional Reserve (LSR) lands defined in the original NWFP. Those protections need to be a major feature of any further planning process by the USFS. In reality, at the present time, the area of these LSR reserves on Forest Service Lands need to be expanded to make up for the reduced mature and old-growth protections that occurred in this region when the BLM lands were removed from the NWFP. Maximizing old-growth and mature forest protections will continue to play a vitally important role in addressing the current biodiversity crisis, especially for terrestrial environments - but also for aquatic environments as well. Note, I was involved in assisting USFS districts in selecting old forest biodiversity reserves under the provisions of the historic "Section 318 of the Department of the Interior and Related Agencies Appropriations Act of 1989". To this day, our region's forests continue to provide invaluable habitats for easing the present, highly significant biodiversity crisis, and we need to do more ! ! !

RIPARIAN PROTECTIONS: Maximizing old-growth and mature forest protections, especially in riparian areas, will also play a vitally important role in supporting continued recovery of aquatic ecosystems. This will be indispensable in relation to supporting recovery of salmon populations. Given the elevated temperatures predicted for climate change, riparian area shading of all levels of streams in all watersheds will be essential, even if those areas of forest are not old enough to be mature or old-growth and/or they are part of any existing reserve protected lands. I do not find sufficient concern expressed in relation to the care needed for road building on steep and unstable slopes, where those activities are commonly the source of debris torrents that can strip areas of landscape to bedrock. Those bedrock exposing debris torrents provide subsequent access for both sun warming and conductive warming of water from hot days, so that water inputs into lower stream reaches can easily reach temperatures that are unsuitable for salmon habitat. I have personally observed these kinds of adverse impacts from logging activity, and because of that I have considerable concern for adequate protection of Salmon habitat from the impacts of debris flows. See below for still more text exploring the importance of

watershed level protections of forested ecosystems.

DISPROPORTIONATE IMPACT OF ROADS: The linear nature of roads

and their tendency to run across topographic gradients yields an influence on watershed scale hydrologic processes that is much greater than one might expect from the small fraction of the landscape that they may occupy. Unfortunately, these road features often effectively act as dams that concentrate surface flows, giving them more significant erosive power. Road building to serve the needs of any logging activity needs to be minimized, because of this kind of impact.

WATERSHED LEVEL PROTECTIONS: Landscape level protections of mature and old-growth forested areas will also facilitate improvements of watershed characteristics, such that the impacts of climate change can be minimized. This involves the ability of forested watersheds to absorb and store water for more uniform release throughout the calendar year. This will become more significant with the more intense rainfall events and longer dry periods that will be a consequence of climate change. This will also help mitigate the reduced snowpacks that will be the result of climate change. Mature and old-growth forests here in the Pacific Northwest also promote added rainfall in the shoulder seasons to summer by condensing water from fog and mist on their large areas of needles, this increases rainfall during those critical periods. Improved watershed characteristics will be vitally important for urban water supplies, for essential irrigation water needed by agriculture, and for maintaining healthy aquatic ecosystems that support our region's vitally important salmon runs. Note, these are important features contributing to the economic value of mature and old-growth forests, as they provide economically important assets that have great value beyond just logs as a raw material for industry.

CUMULATIVE IMPACT PROBLEM: I have observed fundamentally inadequate consideration of cumulative impacts of logging, as logging has proceeded on National Forest lands adjacent to heavily clearcut private lands. There needs to be better consideration of this problem, especially as it can arise within a single watersheds.

TO EMPHASIZE WHAT HAS BEEN SAID IN THE ABOVE PARAGRAPHS: Using a threshold for mature tree age at 80 years is essential, because that is within the age range where carbon sequestration becomes more efficient and beneficial watershed impacts are becoming more important. Therefore, no matter what alternative is being considered, 80 years needs to be the age at which important protections begin, not any older tree age that could be used as a rationale to permit even more logging.

ECONOMIC ARGUMENTS bring me to the last general category of statement that I need to make, and provide a major additional set of important reasons for protecting mature and old-growth forests. For a more complete and solid presentation from a professional economist, I refer you to the full input of Ernie Niemi. I summarize below what to me are some especially important points from his document "Deficiencies in the Socioeconomic Elements of the Draft Environmental Impact Statement (DEIS) for the Northwest Forest Plan Amendment (NWFPA)", which has already been submitted as input to this NWFP EIS process.

Ernie Niemi asserts as a core economic argument - the net economic impacts of an increase in timber production will be negative !! Leaving the forests of the Pacific Northwest unlogged provides the benefits I have presented above, AND will continue to support strong sustainable growth in an economy that attracts new workers that come here because of the quality of life in this region. To quote directly from E. Niemi:

" 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. Their core message states:

"Environmental Quality Is a Major Source of the West's Long-Run, Economic Strength

"The structure of the western economy has changed.

"The economic costs of environmental degradation are rising.

"The economic benefits of protecting and restoring environmental quality are large and increasing.

Finally - - "these amenities can far outweigh the influence of timber

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."

SPECIAL COMMENT ON PONDEROSA PINE FORESTS: Although the area of the NWFP process contains relatively modest areas of forest containing old-growth Ponderosa Pine, those areas have been significantly impacted by both logging and fire suppression for more than the last century. Ultimately, Ponderosa pine dominated ecosystems need to be brought back to their historic, frequent fire intervals to which they are very elegantly adapted. The re-introduction of fire to those forests needs to be done with great care and sophistication. In order to appropriately reduce the risk of catastrophic wildfire, the first relatively easy step consists of major understory thinning with minimal ground level disturbance (while leaving the over-story mature and old-growth forest fully intact). This step is indispensable for removing the extensive ladder fuels that are present. Subsequent burning after that step will need to be carefully done, at times when there is minimal burning of surface material to protect the old-growth tree roots. Given the extensive areas that require restoration, this work will need to be strategically distributed across the landscape until it can be completed. This understory thinning and other work must not become a rationalization for logging old-growth trees to pay for that required restoration work.

Compounding the challenge of the above understory removal, there is a significant additional problem - In the absence of fire, there has commonly been a substantial accumulation of organic horizon material under the old-growth trees which now contains significant and essential tree roots for those trees. It will take extremely careful work using strategically timed burning to slowly restore the soil conditions so that those tree roots can develop back into the new thin organic layer and the deeper root zone within the topsoil. That is the way these magnificent pines lived before the last nearly 125 years of fire suppression.

Ultimately, Ponderosa pine dominated ecosystems need to be brought back to their historic, frequent fire intervals to which they are very elegantly adapted. This important work will be essential to protect the genetic heritage represented by the legacy of our old-growth Ponderosa Pine trees. These kinds of effort are essential for restoration of these forests to their historic fire resistant state which was the result of the influence of fire frequencies of less than 20 years during their long evolutionary history of natural and native community managed fire. Please remember these restoration processes are an ethical obligation that has become necessary because of the long history of fire suppression actions done during the historic mis-management of these forests.

IN ADDITION TO THE ABOVE, RIGOROUS OLD-GROWTH PROTECTIONS NEED TO BE EXTENDED TO THE DRY EAST-SIDE FORESTS OF THE NWFP: Protection of mature and especially old-growth "east-side" forests has historically been accomplished by meeting the criteria set forth in the excellent report by the "Eastside Forests Scientific Society Panel" published in 1993. Unfortunately, those principles have been reversed in recent years. Those principles need to be carefully refined and essentially reinstated. I quote those key Study Panel principles in the following subsections: (Please note the extended explanations in that report could also be appropriately added to the following text and applied for the NWFP revision.)

"Eastside Forests Scientific Society Panel" report published in 1993

presented the principles that follow in my next list:

- A) "Do not log late-successional/old-growth forests in eastern Oregon and Washington."
- B) "Cut no trees of any species older than 150 years or with a diameter at breast height (DBH) of 20 inches or greater."
- C) "Do not log or build new roads in aquatic diversity management areas (ADMAs)."
- D) "Do not construct new roads or log within current (1) roadless regions larger than 1000 acres or (2) roadless regions that are biologically significant but smaller than 1000 acres."
- E) "Establish protected corridors along streams, rivers, lakes, and wetlands. Restrict timber harvest, road construction, grazing, and cutting of fuelwood within these corridors."
- F) "Prohibit logging of dominant or co-dominant ponderosa pine from Eastside forests."
- G) "Prohibit timber harvest in areas prone to landslides or erosion unless it can be conclusively demonstrated by peer-reviewed scientific study that no associated soil degradation or sediment input to streams results from that harvest."
- H) "Prevent livestock grazing in riparian areas except under strictly defined conditions that protect those riparian areas from degradation."
- I) "Do not log on fragile soils until it is conclusively demonstrated by peer-reviewed scientific study that soil integrity is protected and that forest regeneration after logging is assured."
- J) "Establish a panel with the appropriate disciplinary breadth to develop long-term management guidelines that will protect Eastside forests from drought, fire, insects, and pathogens." (as well as FIRE)

K) "Establish a second panel, to produce a coordinated strategy for restoring the regional landscape and its component ecosystems. Emphasize protecting the health and integrity of regional biotic elements as well as the processes on which they depend."

Please note, many of the above east-side related concepts can also be applied in principle to the moist westside forests of the historic NWFP as well.

Your USFS team's substantial work and my analysis in relation to this process provides the following insights which I support and provide in the following summary list:

PROTECTING MATURE AND OLD-GROWTH TREES IS CRITICALLY IMPORTANT. Logging needs to be stopped for both of those categories of trees in all management areas of PNW forests. Remember, mature trees need to be protected in order to become the future old-growth.

LOGGING IS TOO DAMAGING TO THE SUBSTANTIAL VALUES OF INTACT FORESTS. Mature and old-growth forests provide significant ecological services and other values: carbon sequestration and storage; development of a complex soil food web that stores considerable carbon; added precipitation from needle drip; better storage and release of water; better support of consistent stream flows; better support of Salmon habitat; and better support of terrestrial biodiversity which reduces the level of the biodiversity crisis.

ECONOMICALLY, older forests provide high community amenity values. This provides a second paycheck to citizens of this region. This supports a strong regional economy that more than makes up for the timber jobs that could be created by increased logging.

MAINTAIN AND EXPAND THE INITIAL RESERVES SET UP UNDER THE ORIGINAL NWFP, including paying careful attention to their connectivity and ability to mature into old-growth; thus maximizing support for biodiversity.

MORE ATTENTION IS NEEDED FOR RIPARIAN AREAS AND WHOLE WATERSHEDS in order to support

effective habitat for this region's salmon populations. With the impacts of warmer temperatures from climate change, all stream reaches need to have their shading canopy carefully protected and their uppermost reaches protected from the debris flows that are all too common as a result of road building and logging operations.

ALTERNATIVE B CONTAINS IMPORTANT FEATURES that incorporate insights from the tribal communities into improving forest management, especially in the use of fire. Those need a place in your final plan.

PONDEROSA PINE: Because of the essential removal of fire during the last nearly 125 years from the Ponderosa Pine dominated forests in the area of the NWFP planning process, significantly careful re-introduction of fire into those ecosystems needs to be done with great sophistication so the genetic legacy of the important old-growth Ponderosa Pines can be fully protected.

PONDEROSA PINE: Old-growth Ponderosa Pine forested areas need extensive and urgent restoration, as described in detail within my extended text above. This is the place where thinning would especially be appropriate in a significant way - in the high fire frequency east-side, Ponderosa pine forests.

IMPACT OF FIRE ON HUMAN COMMUNITIES: Support for home hardening and more local approaches to wildfire control, including prescribed burning, need to be supported. Trying to reduce fire risk near communities by thinning the forest near them, unfortunately dries out the forest making it more fire prone. Thus, thinning near human settlement can become counterproductive by increasing the local fire risk.

IMPROVING THE ROLE OF FORESTS IN THE ECONOMY: Public access, campgrounds, and interpretive opportunities need to be improved in order to let the this region's forested landscape play a more significant role in supporting the economic development of this region.

PERSONAL OBSERVATION & OPINION - Clearly there is ample volume of wood available for considerable logging in the large area of plantations that have resulted from past clearcuts, such that logs from those locations could act as bridge to the time when industrial plantations are ready to be logged again. Logs from National Forest plantations are also more appropriately sized for the capacity of modern mills.

See the following concurring quote:

"Federal land managers can and should focus their efforts at harvest on the hundreds of thousands of acres of lands that have been previously harvested and use some of those lands for ecologically-based forest management." From "Protect Older Natural Forests in the Western Cascades" by Franklin, J.F.; Johnson, N.; and

Johnson, D.L. in

<https://dlj.maps.arcgis.com/apps/MapJournal/index.html?appid=e9eb7176553d42a0a84a9e1f56e25950>

As should be clear from the above, if I must focus on only one alternative: I primarily support a decision that most approximates ALTERNATIVE C. That is because, as specified, it "would employ more restrictive limits on the use of commercial timber logging for vegetation management and ecological restoration and would reduce active forest management relative to Alternative B." Clearly even Alternative C needs to be strengthened to better protect mature and old-growth forest forest ecosystems. As should be clear from this submission, I find Alternative D seriously deficient because of its impacts on older forests. The need to improve on Alternative A is why we are doing this.

The final record of your process needs to address the critical issues that are addressed in these comments, both your final EIS document as well as the coming Record of Decision. I expressly reserve the right to assist in any available legal and administrative avenues that are available.

Thank you for your attention,

Sincerely,

Trygve Steen, Ph.D.

I include in the following 2 relevant references:

1) I highly recommend and incorporate here by reference, the Coast Range Association's comments on the Forest Plan Amendments DEIS:

<https://coastrange.org/wp-content/uploads/2025/03/CRA-NWFP-DEIS-Comments-A2.pdf>

2) I include for the record my submission to the scoping process:

Submit to: <https://cara.fs2c.usda.gov/Public/CommentInput?Project=64745>

NW Forest Plan Amendment input:

Please note, the following is based on my extensive experience observing forest management in the Pacific Northwest as well as teaching forest ecology and related sustainability courses at Portland State University for over 50 years.

As the Northwest Forest Plan is being considered for revision, there are a number of significant issues that need to be carefully considered, as there is substantial room for improvement of that original plan in the light of more recent scientific understandings. In addition, old-growth and mature forest protections need to be extended to other forest types, especially the east-side forests of the PNW. I urge the most protective option to be chosen in the EIS prepared for these decisions.

1) The ideas I offer below are also significantly supportive of President Biden's executive order #14072 which states, mature and old-growth forests are have a vital need for protection - - "Strengthening America's forests, which are home to cherished expanses of mature and old-growth forests on Federal lands, is critical to the health, prosperity, and resilience of our communities-particularly in light of the threat of catastrophic wildfires. . ."

2) In the Original Northwest Forest Plan area, old-growth and mature forest protections need to be substantially improved by placing all old-growth and mature (over 80 years) forested areas previously designated as matrix into old-growth reserves.

2A) See the book "The Making of the Northwest Forest Plan" written by key contributors to the Northwest Forest Plan: Chapter 12 of that book "A Path Forward" contains much wise input that should be carefully followed, and from which I will limit my quotes to the following:

"We understand the importance of mature forests much better today than when the NWFP was developed in 1994."

"It is time to cease logging of older, unmanaged Moist Forests on national forests - both mature and old growth. . . . These unharvested older forests are too valuable ecologically, socially, and spiritually to allow for their elimination through logging. . . . logging older tree remnants in younger stands undergoing harvest should cease." (K. Norman Johnson, Jerry F. Franklin, and Gordon H. Reeves)

2B) For the westside forests of the Pacific Northwest, protecting ALL old-growth and mature forested areas would bring significant benefits for CARBON SEQUESTRATION and STORAGE. It will be important to include mature trees over 80 years old in these protections, because that is the point where carbon sequestration becomes more effective. These changes are needed because of more recent advancements of scientific knowledge in relation to the processes available for carbon removal from the atmosphere. This change becomes especially imperative because of the current and increasing impacts of climate change which are already resulting in significant numbers of deaths. Given the difficulty of completely eliminating future fossil fuel use, the role of forests to sequester and store that additional carbon dioxide will be truly essential.

2C) Maximizing old-growth and mature forest protections will also play a vitally important role in addressing the current biodiversity crisis, especially for terrestrial environments.

2D) These protections of mature and old-growth forested areas will also facilitate improvements of watershed characteristics, such that the impacts of climate change can be minimized. This involves the ability of forested watersheds to absorb and store water for more uniform release throughout the calendar year. This will become more significant with the more intense rainfall events and longer dry periods that are a consequence of climate change. This will also help mitigate the reduced snowpacks that will be the result of climate change. Improved watershed characteristics will be vitally important both for urban water supplies and for essential irrigation water needed by agriculture.

2E) Maximizing old-growth and mature forest protections, especially in RIPARIAN AREAS, will also play a vitally important role in supporting recovery of aquatic ecosystems. This will be indispensable in relation to supporting recovery of salmon populations. Given the elevated temperatures predicted for climate change, riparian area shading of all levels of streams in all watersheds will be essential, even if those areas of forest are not old enough to be mature or old-growth.

2F) Establishment of the proposed Douglas-Fir National Monument here in the Western Cascades of Oregon would also be a valuable step toward additional mature and old-growth protection. It would also involve protecting an important array of successional stages of forest ecosystems, in addition to just mature and old-growth forests.

2G) Remember also that due to mill conversions to handle the small logs being produced in managed forests of the PNW, there are almost no mills left to handle the large logs that come from mature and old-growth trees.

Therefore the above important protective actions will have minimal impacts on the flow of logs from national forests, while they will have the substantial benefits detailed above - especially for carbon sequestration and storage.

I trust that managers do not need to be reminded that older and mature forests need to be protected in order to be assured of a continued source for appropriately substantial areas of old-growth forest - to make up for losses of old-growth that occur because of disturbance such as wind and fire.

3) Rigorous Old-growth protections and management also need to be extended to the dry east-side forests of the Pacific Northwest (even though this forest type has limited representation in the NWFP planning area) Protection of mature and especially old-growth "east-side" forests has historically been accomplished by meeting the criteria set forth in the excellent report by the "Eastside Forests Scientific Society Panel" published in 1993.

Unfortunately, those principles have been reversed in recent years. Those principles need to be carefully refined and essentially reinstated. I quote those key Study Panel principles in the following subsections: (Please note the extended explanations in that report could also be appropriately added to the following text and applied for the NWFP revision.)

Note, at the present time, the old-growth forests of the east-side have been especially impacted by logging. The small amounts of those old-growth forests that are left are worthy of special levels of protection and active management - by thinning the understory to appropriately reduce the risk of catastrophic wildfire (while leaving the over-story mature and old-growth forest fully intact). Understory thinning must not become a rationalization for logging old-growth trees to pay for that required restoration work. This kind of effort is essential for restoration of these forests to their historic fire resistant state which was the result of the influence of fire frequencies of less than 20 years. Given the extensive areas that require restoration, this work will need to be strategically distributed across the landscape until it can be completed. Please remember this understory thinning is an ethical obligation that has become necessary because of the historic fire suppression actions done in the management of these forests.

"Eastside Forests Scientific Society Panel" report published in 1993

presented the principles that follow in the next list:

3A) "Do not log late-successional/old-growth forests in eastern Oregon and Washington."

3B) "Cut no trees of any species older than 150 years or with a diameter at breast height (DBH) of 20 inches or greater."

3C) "Do not log or build new roads in aquatic diversity management areas (ADMAs)."

3D) "Do not construct new roads or log within current (1) roadless regions larger than 1000 acres or (2) roadless regions that are biologically significant but smaller than 1000 acres."

3E) "Establish protected corridors along streams, rivers, lakes, and wetlands. Restrict timber harvest, road construction, grazing, and cutting of fuelwood within these corridors."

3F) "Prohibit logging of dominant or co-dominant ponderosa pine from Eastside forests."

3G) "Prohibit timber harvest in areas prone to landslides or erosion unless it can be conclusively demonstrated by peer-reviewed scientific study that no associated soil degradation or sediment input to streams results from that harvest."

3H) "Prevent livestock grazing in riparian areas except under strictly defined conditions that protect those riparian areas from degradation."

3I) "Do not log on fragile soils until it is conclusively demonstrated by peer-reviewed scientific study that soil integrity is protected and that forest regeneration after logging is assured."

3J) "Establish a panel with the appropriate disciplinary breadth to develop long-term management guidelines that will protect Eastside forests from drought, fire, insects, and pathogens." (as well as FIRE)

3K) "Establish a second panel, to produce a coordinated strategy for restoring the regional landscape and its component ecosystems. Emphasize protecting the health and integrity of regional biotic elements as well as the processes on which they depend."

4) Please note, the above east-side related concepts can also be applied in principle to the moist westside forests of the historic NWFP as well.

5) Finally, I remind the reader of an excellent section of President Biden's executive order #14072 which is relevant to this NWFP plan revision process: "Sec. 4 . Deploying Nature-Based Solutions to Tackle Climate Change and Enhance Resilience. Just as forest conservation, restoration, and adaptation generate broad benefits related to climate change and other areas, other nature-based solutions can advance multiple benefits. These solutions include actions that protect coasts and critical marine ecosystems, reduce flooding, moderate extreme heat, replenish groundwater sources, capture and store carbon dioxide, conserve biodiversity, and improve the productivity of agricultural and forest lands to produce food and fiber. To ensure that agencies pursue nature-based solutions, to the extent consistent with applicable law and supported by science, the following actions shall be taken: - - - "

6) In summary and to be completely clear, there needs to be no exception that permits logging, commercial exchange, transfer of ownership, or financial incentive to log mature and old-growth trees on the National Forests included within the Northwest Forest Plan. There can be no exception allowing for logging that would undermine the climate, biodiversity protections, and watershed protections that would result from full protection of ALL mature and old-growth forest stands on National forests.

6) Thank you for your attention to the above vitally important reasons for increased protections for mature and old-growth forested ecosystems. I deeply appreciate your care in relation to the above ideas. Clearly, substantial actions need to be accomplished as quickly as possible.

Please remember this thinning is an ethical obligation that has become necessary because of the understory historic, ecologically inappropriate fire suppression actions done in the management of these forests.

READING ROOM URL:

<https://cara.fs2c.usda.gov/Public/ReadingRoom?project=64745>

Attached: Photo of two people next to fallen trees titled "First Sale Protest.jpg"