Data Submitted (UTC 11): 3/17/2025 4:00:00 AM
First name: Thomas
Last name: Collins
Organization:
Title:
Comments: Subject : Updated comment: Failure to Fully Disclose Potential Effects on Public Health and Safety in USDA-Forest Service Northwest Forest Plan Amendment - Draft Environmental Impact Statement (DEIS)

This letter updates and adds to comments in my March 16, 2025 letter.

I am a retired U.S. Forest Service geologist with 51 years experience on National Forests across the United States including Pacific Northwest National Forests. Over my career I served on hundreds of interdisciplinary teams for proposed management activities (timber harvest, road construction and maintenance, fire management, post-fire salvage, storm damage, watershed restoration, developed recreation, special uses, etc.). My participation in the environmental analyses included assessing the proposed action's potential impacts on geologic hazards, and visa versa, the potential impacts of geologic hazards on the proposed action (landslides including debris flows, floods, sinkholes, volcanic activity, earthquakes, hazardous minerals (asbestos, uranium, etc.); groundwater contamination, etc.).

Geologic hazards are geologic conditions (naturally occurring or altered by humans) that create a threat (risk) to public health and safety, infrastructure, and resources. While many geologic hazards are natural, some geologic hazards are a direct result of management activities, such as debris flow landslides caused by failure of road fill slopes or log landing fill slopes.

My career included more than 10 years on the Klamath, Six Rivers and Mt. Baker-Snoqualmie National Forests. As an engineering geologist on the Pacific Northwest National Forests I conducted field investigations of proposed roads and timber harvest including post-fire salvage, and made recommendations to avoid or reduce potential impacts relating to geologic hazards.

I also conducted field investigations and made stabilization/remediation recommendations along hundreds of miles of Forest Service roads for 1) road cut slope failures, 2) road fill slope failures and log landing failures and resulting debris flows, 3) slope failures in timber harvest units in unstable geologic settings such as steep slopes in disintegrated granite.

One example related to public safety is my discovery of a log landing and a road fill undergoing progressive slumping and debris flow activity in a post-fire salvage area above the community along Indian Creek in Happy Camp, California. I prepared a debris flow hazard and risk assessment for the District Ranger who then held a community meeting to inform residents about the hazard and risks to people and homes along Indian Creek as well as to the highway serving the community. See Figure 1 in:

Collins, T.K., Debris flows caused by failure of fill slopes: early detection, warning, and loss prevention, Landslides (2008) 5: 107.

https://link.springer.com/article/10.1007/s10346-007-0107-y

DEIS Failure to Fully Disclose Potential Effects on Public Health and Safety

Potential effects on the human environment are the focus of the National Environmental Policy Act of 1969 (NEPA law) and the implementing regulations 40 CFR Parts 1500-1508 (NEPA regulation):

"40 CFR 1502.3 Statutory requirements for environmental impact statements.

As required by section 102(2)(C) of NEPA, environmental impact statements are to be included in every Federal agency recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment."

The NEPA law requires focus on potential effects on the "human environment", not simply the "environment" or the "northern spotted owl environment". As a result, the NEPA law and regulations have specific requirements to consider potential effects on public health and safety.

The NEPA regulation makes clear the overarching importance of public health and safety in the human environment (40 CFR 1501.3 (d)(2) Determine the appropriate level of NEPA review):

"Agencies shall analyze the intensity of effects considering the following factors[hellip]

"(i) The degree to which the action may adversely affect public health and safety."

Public health and safety is the first factor among the eight factors that "Agencies shall analyze the intensity of effects" (40 CFR 1501.3 (d)(2).

Potential effects on public health and safety include more effects than wildland fire effects. The DEIS fails to disclose the potential effects of all relevant hazards and risks to public health and safety (such as proposed actions resulting in debris flows that affect public health and safety; proposed actions resulting in public exposure to asbestos and other hazardous minerals; etc). The DEIS failure to recognize the scope of potential effects contributes to the DEIS failure to identify public health and safety as a significant issue.

The DEIS needs to be revised to 1) recognize public health and safety as a significant issue with multiple components, and 2) analyze the potential effects of the proposed action on the multiple components of the significant issue.

Potential effects on public health and safety resulting from ground disturbance in geologic areas with asbestos and other hazards minerals

The proposed action includes ground disturbance in geologic areas with naturally occurring hazards minerals such as asbestos. The proposed ground disturbance required for timber harvesting, prescribed fires, and wildfire suppression may release asbestos to airborne and waterborne pathways and result in potential effects on public health and safety.

Many National Forests in the Northwest Forest Plan (NWFP) have areas of ultramafic rocks containing asbestos. Yet the DEIS does not assess the proposed action's potential to release asbestos and the resulting risks to public health and safety. The DEIS also does not disclose the proposed action's potential effects on other naturally occurring hazardous minerals such as arsenic, mercury, uranium, etc.

This major deficiency in the DEIS needs to be remedied. The following recommendations are identified by DEIS sections that need updated analysis and revision. Because the geologic areas with asbestos are so large and widespread throughout the NWFP area, asbestos will be used as an example of how potential effects related to hazardous minerals should be assessed.

Recommendation 1 - Issues (DEIS Chapter 1.9)

Add the following new Significant Issue:

Issue 8 - Public Health and Safety: What effect would the proposed alternatives have on public health and safety?

Recommendation 2 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES CHAPTER 3

Add to Chapter 3 the following analysis of the Issue:

3.9 Issue 8 - Public Health and Safety

Although not identified as a key issue/theme in the Notice of Intent, the proposed amendment includes clarifying direction for actions that could have effects on public health and safety. The NEPA regulation makes clear the overarching importance of public health and safety in the human environment (40 CFR 1501.3 (d)(2) Determine the appropriate level of NEPA review):

"Agencies shall analyze the intensity of effects considering the following factors[hellip]

"(i) The degree to which the action may adversely affect public health and safety."

Public health and safety is the first factor among the eight factors that "Agencies shall analyze the intensity of effects" (40 CFR 1501.3 (d)(2). Therefore, this section addresses what effects the proposed alternatives would have on public health and safety. This section will also provide a summary and reference to public health and safety effects assessed in other Issues, such as Air Quality and Fire Resistance and Resilience.

Instead of having public health and safety effects scattered under different Issues, this section provides a one-stop location to disclose the full scope and magnitude of potential effects on public health and safety.

The following is a preliminary outline of the multiple hazards and risks to public health and safety to be assessed in Chapter 3 Affected Environment.

3.9.1 Affected Environment

Wildfire

[Assessment TBD]

Prescribed Fire

[Assessment TBD]

Air Quality

[Assessment TBD]

Asbestos

Add a geologic assessment of the affected environment for asbestos.

Other Hazardous Minerals

Add a geologic assessment of the affected environment for other hazardous minerals (arsenic, mercury, uranium, etc.)

Landslides

Add a geologic assessment of the affected environment for landslides.

Floods

Add a geologic assessment of the affected environment for floods.

Karst (sinkholes and groundwater contamination)

Add a geologic assessment of the affected environment for karst (sinkholes and groundwater contamination).

Coal fires

Add a geologic assessment of the affected environment for coal fires.

The following is a preliminary outline of the multiple hazards and risks to public health and safety to be assessed in Chapter 3 Environmental Consequences.

3.9.2 Environmental Consequences

Wildfire

[Assessment TBD]

Prescribed Fire

[Assessment TBD]

Air Quality

[Assessment TBD]

Asbestos

Add a geologic hazards and risk assessment of the environmental consequences due to ground disturbance of asbestos.

Other Hazardous Minerals

Add a geologic hazards and risk assessment of impacts of the alternatives on other hazardous minerals (arsenic, mercury, uranium, etc.)

Landslides

Add a geologic hazards and risk assessment of impacts of the alternatives on natural landslides and management-induced landslides.

Floods

Add a geologic hazards and risk assessment of impacts of the alternatives on floods.

Karst (sinkholes and groundwater contamination)

Add a geologic hazards and risk assessment of impacts of the alternatives on karst (sinkholes and groundwater contamination).

Coal fires

Add a geologic hazards and risk assessment of impacts of the alternatives on potential coal fires.

The following is a first draft of the recommended addition of an affected environment and environmental consequences for asbestos.

Affected Environment

Asbestos - Add a geologic assessment of the affected environment for asbestos.

Many National Forests in the Northwest Forest Plan (NWFP) have areas of ultramafic rocks containing asbestos. Add a geologic assessment of the affected environment to identify the geographic distribution of ultramafic rock areas, and to describe the scope and magnitude of asbestos hazards and risks.

The first part of the geologic assessment would be to collect data from existing geologic maps such the "Maps of the Locations of Ultramafic and Serpentine Rock Formation on National Forests in California" which includes the Klamath, Lassen, Mendocino, Shasta-Trinity, Six Rivers National Forests.

https://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=STELPRDB5363833

The geologic assessment of the affected environment would describe the scope and magnitude of ground disturbance from past and present management activities (roads, trails, campgrounds, wildland fire control lines, bulldozed lines, timber harvest areas, log landings, mining, etc.) in the ultramafic rock areas where asbestos hazard may be present. Identify especially where road and trail maintenance and fire break maintenance are

continuing ground disturbances in ultramafic rock areas.

The existing ground disturbance may have created hazardous asbestos conditions. Such asbestos hazards need to be identified as part of the existing condition and in the cumulative effects.

Identify potentially affected stream drainages in or downstream from the ultramafic rock areas as well as potentially affected municipal watersheds and/or watersheds that are sources of domestic drinking water. Describe the proximity of ultramafic areas to private lands and residences or communities.

The geologic assessment should comply with Forest Service policy (Forest Service Manual 2885.03): Reports on geologic studies or investigations, and transmittal of geologic data must be prepared and reviewed by a geologist with qualifications in the subject area (FSM 2885.3).

Environmental Consequences

Asbestos - Add a geologic hazards and risk assessment of potential impacts due to ground disturbance of asbestos.

The proposed ground disturbance required for timber harvesting, prescribed fires, and wildfire suppression may release asbestos to airborne and waterborne pathways and result in potential

effects on public health and safety.

The USDA-Forest Service Pacific Southwest Region identifies public health and safety impacts due to asbestos exposure on National Forests in the following five paragraphs:

Asbestos Exposure and Health Facts

Naturally occurring asbestos may be a health risk if disturbed and asbestos fibers are released into the air. When asbestos-containing rocks are crushed or broken through natural weathering processes or through human activities, asbestos-containing dust can be generated. Once asbestos fibers are released into the air, they may remain airborne or in the soil for a long time. Airborne asbestos fibers may pose a health hazard because of the potential risks associated with inhalation of the fibers.

When these fibers are inhaled, over time they may cause mesothelioma (a rare cancer directly associated with asbestos exposure), lung cancer (smoking significantly increases the risk of lung cancer if one is exposed to asbestos), and non-cancer diseases such as asbestosis. All forms of asbestos fibers can cause cancer and are classified as known human carcinogens. Any exposure to a carcinogenic compound involves some risk; therefore, no "safe" exposure level has been established for asbestos. No one knows how many fibers are needed to cause cancer or other lung disease.

Diseases caused by asbestos may not be observed for twenty or more years. Being exposed to asbestos does not necessarily mean you will develop health problems. Many factors influence a person's chances of developing disease. A doctor can help you find out whether you are at risk for health problems from asbestos exposure.

Since naturally occurring asbestos is present on some national forest lands, there is a potential for your exposure to asbestos fibers on your visit to national forests in California. Natural weathering and routine human activities may disturb asbestos-bearing rock or soil and release asbestos fibers into the air. Examples of dust-generating activities include, but are not limited to:

Driving over unpaved roads, trails or soils

Riding horses or moving livestock on unpaved roads, trails, or soils

Recreational activities on unpaved roads, trails, or soils where dust may be generated, such as riding off-road vehicles, riding bicycles, running or hiking

Digging or shoveling dirt

Mining and quarrying operations

Health risks associated with exposure to naturally occurring asbestos are not yet fully understood. Recent studies and investigations by the U. S. Environmental Protection Agency in El Dorado County and at the Bureau of Land Management's Clear Creek Management area near Hollister, the U. S. Agency for Toxic Substances and Disease Registry, and by the University of California at Davis are increasing our understanding of the potential health risks

associated with naturally occurring asbestos.

https://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=STELPRDB5363833

Based on areas of ultramafic rocks identified in the affected environment and on the areas where the proposed

actions would be permissible, assess the potential impacts on public health and safety.

Identify each type of ground disturbance that could result in asbestos exposure to employees, firefighters, contractors and the public. Use the information to develop plan standards and guidelines to reduce risk to employees, firefighters, contractors and the public.

Assess the potential for the proposed action to cause asbestos releases (such as asbestos-containing dust) during project implementation (wildfire suppression operations, prescribed fire operations, road construction, construction of skid trails or skid roads, log skidding, yarding, timber felling/bucking/delimbing, piling and fire burning timber slash, chipping operations, road maintenance, road grading, road ditch and culvert cleaning, pit and quarry operations, etc.). Assess asbestos release and transmission in airborne and waterborne pathways.

Assess the potential for the proposed action ground disturbance to result in asbestos releases in the years after project implementation. Assess asbestos release and transmission in airborne and waterborne pathways. Assess potential impacts on municipal watersheds and/or watersheds that are sources of domestic drinking water. Identify the populations that would be at increased risks of health effects due to project-related asbestos releases in the years after project implementation (such as visitors using affected roads and trails, road maintenance crews, Forest Service personnel, tree planting crews, and residents if private land is nearby operations).

Develop plan components to reduce risk to employees, firefighters, contractors and the public.

More Recommendations to Include in the Affected Environment and Environmental Consequences for Geologic Hazards

The recommendations for the Affected Environment and Environmental Consequences sections for asbestos is lengthy (above). It is provided to indicate the need for substantial and thorough sections for all the geologic hazards listed in the preliminary outline of the Affected Environment and Environmental Consequences for the public health and safety issue (above).

The following comments will highlight factors to consider for some of the geologic hazards in the preliminary outline.

Landslides - Affected Environment and Environmental Consequences

Geologic hazards (such as landslide hazards) are naturally-occurring or human-altered geologic conditions that result in risks to public health and safety, infrastructure, and resources. Natural landslides are abundant throughout the National Forests in the NWFP area and are a key driver of terrestrial and aquatic ecosystems. A wide variety of geologic settings and processes have resulted in a wide variety of natural landslides (rockslides, rockfalls, debris flows, debris slides, translational slides, rotational slides, slumps, mudslides, etc.).

Some of the most landslide-prone terrain in the United States is found in the National Forests in the NWFP area. So, it is not surprising that decades of road building and timber harvest have resulted in an abundance of management-induced landslides throughout the National Forests in the NWFP area (road cut slope failures; road fill slope failures and resulting debris flows; log landing cut slope failures; log landing fill slope failures and resulting debris flows; stream crossing fill failures and resulting debris flows; pit and quarry slope failures; earthen dam failures; failures of slope stability structures such as retaining walls and gabions; shoreline failures due to fluctuating reservoir levels; failure of mine waste dumps or impoundments; failure of constructed or excavated bridge abutments.

The National Forests in the NWFP area probably contain the largest complex of management-induced landslides in the United States. As a result, there are many types of public health and safety issues. First, just as there are post-wildfire debris flow hazards, there are post-construction debris flow hazards. A small failure of a fill slope from a road, log landing or stream crossing can snowball into a massive debris flow. A debris flow increases in volume and destructive power as it gouges down the mountain. A debris flow can travel hundreds or thousands of feet downslope and endanger people and communities adjacent to the National Forest.

One example of a management-induced debris flow hazard endangering a community is the failure of a log landing constructed for post-fire salvage on the Klamath National Forest above the community along Indian Creek in Happy Camp, California. This example and other examples as well as ways to identify, manage and remediate the hazard are in this reference:

Collins, T.K., Debris flows caused by failure of fill slopes: early detection, warning, and loss prevention, Landslides (2008) 5: 107.

https://link.springer.com/article/10.1007/s10346-007-0107-y

During storms and atmospheric river events, road cut slope and fill slope failures endanger drivers and emergency responders, and block evacuation routes. Post-storm work to remove cut slope failures and rockfall from the road or repair fill slope failures endangers Forest Service road crews and contractors road crews.

The Forest Service chronic lack of funding to repair the chronic storm damage of roads results in many sections of road remaining impassable for months or years. Those impassable roads block fire vehicles from rapid response to wildfires and thus endanger public safety.

A common safety issue on Forest Service roads in the NWFP area is dangerously narrow travelway due to slippage or slumping of the fill slope. Another common safety issue is rockfall, both falling rock and fallen rock in the travel way.

Some hazard trees growing along roads are the result of sloughing, slumping and instability on or adjacent to road cut slopes and fill slopes.

Recreation is impacted in several ways, especially since so many Forest Service trails are actually roads. For example, here is a news headline:

Landslide trapped 4 people at Oregon hot springs:

'They required assistance getting out'

The news report states: "The Forest Service says the area is not safe, and urged people not to hike in past the landslide. "Please respect that this landslide may continue to bring boulders, rocks and mud down on the road," acting District Ranger Shane Kamrath cautioned.

16KMTR News December 22, 2017

Road cut slope failures In ultramafic rock areas may create fresh exposures of asbestos and result in health risks especially to road crews.

Lessons Learned

The greatest loss of life from any disaster (including wildfire) originating on National Forest System lands is the more than 400 fatalities from 1928 Saint Francis Dam failure on Angeles National Forest. The east abutment of the dam was constructed into an old landslide. The Forest Service permitted construction of the dam. The dam was built on an old landslide and failed two years after it was built.

It was the worst American civil engineering disaster of the 20th Century and lead to many mandatory changes and standard changes:

? The following year in 1929 , California enacted professional registration for civil engineers

? Gave birth to practice of engineering geology in California

? Drew attention to the importance of engineering geology input, which became standard practice, as did engineering geology in civil engineering curriculum

? Led to nationwide requirements for geologic investigations for dams and other civil engineering projects

? A host of other outcomes too numerous to mention.

Rogers, J.D. et al., 2007,The 1928 St. Francis Dam Failure and the 1995/2005 La Conchita Landslides:The Emergence of Engineering Geology and Its Continuing Role in Protecting Society,

https://www.researchgate.net/publication/278683639_The_1928_St_Francis_Dam_Failure_and_the_19952005_La_Conchita_Landslides_The_Emergence_of_Engineering_Geology_and_Its_Continuing_Role_in_Protecting_Society

Lessons Not Learned

Unfortunately, nearly a century later, the Forest Service still has not learned the many lessons from the Saint Francis Dam failure. Geologic science and geologists are indispensable to the siting, design, construction, and maintenance of civil engineering projects (roads, bridges, dams, etc.). In order to protect public safety, particularly in landslide-prone mountainous terrain, organizations need adopt mandatory requirements to include geologists in 1) the siting, design, construction, and maintenance of civil engineering projects (roads, bridges, dams, etc.), as well as 2) NEPA analysis for Forest Plans and project implementation providing direction to civil engineering projects.

Incredibly, since the 1994 NWFP the Forest Service is regressing and going backwards by not using civil engineering in many types of road construction. Controversy started several decades ago over the high costs of road construction and maintenance, with concerns raised about environmental impacts, taxpayer burden, and the agency's ability to manage existing infrastructure.

Since then the Forest Service has used so-called "temporary roads" to lower standards and reduce or eliminate civil engineering input and costs. Since the 1994 NWFP it is standard practice to have foresters do the siting of roads and the overseeing of construction of so-called "temporary roads" and log landings without any civil engineer or geologist involvement.

The Forest Service folly of "cost savings" by reducing or eliminating use of civil engineers and geologists has backfired and worsened growing backlog and costs of management-induced landslides as well as the growing risks to public health and safety.

National Landslide Preparedness Act

The National Landslide Preparedness Act (January 2021) establishes a national program to identify and reduce

losses from landslide hazards. The Act establishes the National Landslide Hazards Reduction Program as an interagency program

(1) to identify and understand landslide hazards and risks;

(2) to reduce losses from landslides;

(3) to protect communities at risk of landslide hazards;

and

(4) to help improve communication and emergency

preparedness, including by coordinating with communities and

entities responsible for infrastructure that are at risk of

landslide hazards.

The federal land management agencies (USDA - Forest Service, DOI BLM and NPS) are key participants because each agency makes decisions that could reduce losses from landslides. The Forest Service is the agency that manages the most landslide-prone terrain with the most management activities. Thus the Forest Service has the opportunity to lead in accomplishing the Act's goal of reducing loss from landslides.

The National Forests in the NWFP area have the largest complex of management-induced landslides on NFS lands. The NWFP proposed action will set direction for a large program of management activities requiring extensive ground disturbance. So, the NWFP has the opportunity to lead and make the single largest contribution to the Act's goal of reducing loss

from landslides. Reducing loss from landslides is not only an opportunity, but a responsibility.

Recommendation: Add Forest Service geologist(s) to the NWFP interdisciplinary team to 1) conduct a landslide hazard and risk assessment, 2) develop the affected environment and environmental consequences for landslides, and 3) review existing plan components for landslides and strengthen where needed, 4) develop any new plan components in light of experience since the 1993 NWFP, such as 2014 Oso landslide and the 43 fatalities across the river from the landslide source. The Mt. Baker-Snoqualmie faces a similar situation with the Gold Basin Campground located across the river from an active landslide.

Coal Fires - Affected Environment and Environmental Consequence

Coal deposits occur on some National Forests in the NWFP area, and so there is a potential for coal fires to

occur. Coals in Washington and Oregon have a history of spontaneous combustion.

The Green River underground coal fire south of Seattle has burned for more than 60 years.

Vice, D.H.; Stracher, G.B.; Eckert, A. Coal Fires of the Pacific Northwest, USA. In Coal and Peat Fires: A Global Perspective; Stracher, G.B., Prakash, A., Sokol, E.V., Eds.; Elsevier Inc.: Amsterdam, The Netherlands, 2015; Volume 3, pp. 671-680.

Coal fires can ignite in surface coal fields, underground coal mines, coal gobs or waste piles, or coal seams at or near the ground surface. Natural ignition sources include wildfires, lightning, spontaneous combustion, bedrock exposure to oxidation e.g. landslides,. Human-caused ignition sources include accidental or intentional wildfires, prescribed fires, trash and landfill fires, bedrock exposure to oxidation by excavation for roads, log landings, trails, pits and quarries, or by cut slope failures, etc.).

The coal fire hazard is far greater than just coal mines, and extends across landscapes wherever coal seams are at or near the ground surface. Once a coal seam fire is ignited and spreads into the underground, it becomes an underground fire that typically is technically or economically unfeasible to extinguish. Coal fires can smoulder and burn for decades and centuries, and in essence, become forever fires.

As coal seam fires spread underground they remove support from the overlying ground, and create cracks and fissures opening to the ground surface. The ground becomes prone to collapse. Toxic gases are released from the cracks and fissures. Burning embers and fire erupt from the cracks and fissures and ignite wildfires.

Firefighters may smother the crack/fissure source of the wildfire with soil, rock, foam, concrete, etc,. Fire may appear to be "out" (extinguished). But fire and burning embers usually are just covered up, and the fire continues to spread underground and pop up weeks, months or years later (whack-a-mole).

Underground coal seam fires in terrain without underground mines usually cannot be controlled or contained by human actions. As a result, an underground coal seam fire that burns for decades or centuries on a National Forest would become a permanent and unstoppable source for wildfires.

Underground bedrock fires on National Forests across the U,S. are more common and widespread than most people may be aware because the land surface may appear normal with no sign of underground fire for years or decades. However, the hazard is growing, especially with the increase in wildfires and prescribed fires on National Forests.

Recommendation: Develop NWFP plan components for geologic support to prescribed fire program

Combustible bedrock hazards (coal seams, oil and gas formations, bituminous deposits)

are an extreme geologic hazard and an existential threat to public health and safety, resources and infrastructure on NFS lands. The NWFP proposed action is to increase prescribed fires. Currently the Forest Service does not mandate the inclusion of geologists in the prescribed fire program. Without a mandate to include geologic support to the prescribed fire program, there is a high probability that prescribed fire will ignite combustible bedrock fires that will burn for decades, centuries, or more. The Forest Service Geologic Hazard Program has the tools to prevent such disasters, but to insure use of those tools the Forest Service and the NWFP plan components need to require geologist support to the prescribed fire program.

Recommendation: Develop NWFP plan components for geologic support to wildfire program

Combustible bedrock hazards (coal seams, oil and gas formations, bituminous deposits)

are an extreme geologic hazard and an existential threat to public health and safety, resources and infrastructure on NFS lands. Every year the Forest Service responds to wildfires on millions of acres. Wildfire suppression strategies are used to decide which wildfires (or parts of wildfires) to suppress and which are allowed to play a natural role. Currently the Forest Service does not mandate the inclusion of geologists in the wildfire program. Without a mandate to include geologic support to the wildfire program (such as Resource Advisors to IMT Planning and Operations), there is a high probability that wildfire suppression strategies will miss opportunities to suppress combustible bedrock fires that will burn for decades, centuries, or more. The Forest Service Geologic Hazard Program has the tools to prevent such disasters, but to insure use of those tools the Forest Service and the NWFP plan components need to require geologist support to the wildfire program.

See attachment:

Combustible Bedrock Fires: Urgent Need for Major Expansion in Geologic Hazard Program Support to Prescribed fire and Wildfire Programs on National Forests System Lands By Tom Collins - Retired Forest Service Geologist May 22, 2023

Recommendation: 3.9 Cumulative Effects

Add Cumulative Effects for Issue 8 - Public Health and Safety

Recommendation: Bring NEPA analysis for NWFP Amendment into compliance with Forest Service policy.

Land management projects may affect or be affected by geologic hazards, and thus, result in risks to public health and safety, infrastructure, and resources.

Forest Service policy (FSM 2883.03) includes:

1. Identify existing and potential geologic hazards, land base limitations, and affected management activities in all land management plans.

Forest Service policy (FSM 2880.3) includes:

3. Integrate geologic resources and hazards into the Agency's land management activities, including associated NEPA processes.

4. Manage geologic hazards on NFS lands to ensure the protection of public safety, health, property, and the environment by using qualified Geologists for the recognition, inventory, analysis, and interpretation of those hazards, and the integration of that information into Forest and project planning, design, construction, maintenance, and monitoring activities, reviews of proposals, permits, approvals, concurrences, and recommendations for uses of NFS lands.

To safeguard the public interest in assessing geologic hazards States like Washington, Oregon and California require registration or licensing of qualified Geologists. The State certification is not required of federal employees working on federal lands. Thus, FSM 2880.3 Directive to use qualified Geologists is needed to insure a similar safeguard for public safety on NFS lands.

Thomas Collins

March 17, 2025

ATTACHMENT-REFERENCE: Thomas Collins attachment Combustible Bedrock Fires.pdf; Combustible Bedrock Fires: Urgent Need for Major Expansion in Geologic Hazard Program Support to Prescribed Burn and Wildfire Programs on National Forests System Lands; Tom Collins; 2023; Combustible bedrock fires, such as coal seam fires, are burning on many National Forest System (NFS) lands across the U.S. and are igniting wildfires. The existing combustible bedrock fires and potential cumulative impacts are significant. But now two responses to the wildfire crisis have the potential to make a bad situation even worse[hellip]order of magnitude(s) worse.