REGION 10
SEATTLE, WA 98101

January 31, 2024

Mark Brown
U.S. Forest Service
1220 Southwest 3rd Avenue
Portland, Oregon 97204

Dear Mark Brown:

The U.S. Environmental Protection Agency has reviewed U.S. Forest Service's December 2023 Notice of Intent to prepare an Environmental Impact Statement for the Northwest Forest Plan (NWFP) Amendment (EPA Project Number 23-0053-USFS). EPA has conducted its review pursuant to the National Environmental Policy Act and our review authority under Section 309 of the Clean Air Act. The CAA Section 309 role is unique to EPA and requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement.

The NOI states that the EIS will evaluate the potential environmental impacts associated with amending the NWFP to establish new or modify existing plans for 17 national forests in Washington, Oregon, and California. The purpose of the amendment is to better enable the Forest Service to meet the original intent of the NWFP to conserve mature and old-growth ecosystems, protect the northern spotted owl and other species, preserve riparian areas and waters, and provide a sustainable supply of forest products. The amendment will incorporate new scientific information and tribal input, which according to the NOI was overlooked in the original 1994 NWFP planning effort.

EPA supports the Forest Service's efforts to strengthen the effectiveness of the NWFP given changed ecological and social conditions. We recognize multiple entities have collaborated on this effort. EPA provides recommendations for several resource areas in the enclosed Detailed Comments.

The EPA also recognizes Executive Order 14072, *Strengthening the Nation's Forests, Communities, and Local Economies*, and its focused efforts to protect and conserve old-growth and mature forests on Federal lands. We recommend that the EIS address EO 14072's priorities within the NWFP.

Thank you for the opportunity to review the NOI for this project. If you have questions about this review, please contact Caitlin Roesler of my staff at (206) 553-6518 and roesler.caitlin@epa.gov, or me, at (206) 553-1774 or at chu.rebecca@epa.gov.

Sincerely,

REBECCA CHU

Digitally signed by REBECCA CHU
Date: 2024.01.31 15:00:48 -08'00'

Rebecca Chu, Manager
Policy and Environmental Review Branch

Enclosure

**U.S. EPA Detailed Comments on the**
**Northwest Forest Plan Amendment NOI**
**Washington, Oregon, and California**
**January 2024**

## Water Quality

### *Riparian Treatment Areas*

Implementation of the Aquatic Conservation Strategy (ACS) over the past several decades has resulted in improvements to (1) stream physical habitat conditions, (2) benthic invertebrate community conditions, and (3) stream temperature conditions in the NWFP area (Reeves et al 2018, Figure 7-3).[1] The NOI references the "2021 Supplement Report to the Bioregional Assessment"[2] as a key document that informed the need for change in the NWFP. This document indicates that silvicultural treatments can be applied within riparian areas where passive restoration is not sufficient for the attainment of Desired Future Conditions (DFC). However, specifics on the expected/required treatments to achieve DFC were not provided. Given that water quality conditions have been improving under the current application of the ACS, EPA recommends that the DEIS describe how and to what extent more management flexibility will impact the ability of riparian area to protect water quality conditions.

Management activities within the riparian area directed by NWFP revisions could contribute to negative water quality impacts (e.g., excess sediment due to disturbed ground, excess heat from solar radiation due to reduced shade). Accordingly, EPA recommends that any changes (e.g., buffer widths) to riparian zone vegetation management (e.g., road work, timber harvest, prescribed burning) are evaluated to assess associated water quality impacts. EPA recommends the DEIS:

- Describe the expected riparian buffer width retained surrounding different stream classifications (e.g., large, medium, small, fish, non-fish, spawning). Include the expected width of any "no-harvest" zone next to the stream and the expected width and density within thinning harvest treatment zones located outside of the "inner" zone.
- Include quantitative descriptions of the expected minimal vegetation density following treatment activities (e.g., thinning harvest, prescribed burning) within riparian buffered zones.
- Describe the proposed harvest management scheme. For instance, explain if the project proposes to implement an inner "no-harvest" zone with an outer "thinning" zone, or if thinning will occur throughout the ACS buffer regardless of stream classification.
- Describe the expected shade loss and temperature increase associated with new potential riparian vegetation configurations and the anticipated length of time for vegetation growth to mitigate shade loss. Using available literature/tools,[3] provide estimates of the expected water quality impacts (e.g., temperature increases and sedimentation) resulting from riparian buffer changes.

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[1] Reeves, G. H., Olson, D. H., Wondzell, S. M., Bisson, P. A., Gordon, S., Miller, S. A., and Furniss, M. J. (2018). The aquatic conservation strategy of the northwest forest plan—a review of the relevant science after 23 years. In: Spies, TA; Stine, PA; Gravenmier, R.; Long, JW; Reilly, MJ, tech. coords. 2018. Synthesis of science to inform land management within the Northwest Forest Plan area. Gen. Tech. Rep. PNW-GTR-966. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station: 461-624., 966, 461-624.

[2] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd903049.pdf. Accessed 1/16/2024.

[3] If requested, EPA can provide suggestions on literature, tools, and assessments methods used during previous analysis evaluating of the relationship between land use and water quality. Of note, literature and modeling have consistently shown that the amount/intensity of water quality impact is often positively correlated to the proximity of the proposed activity to the stream channel edge and the amount of thinning occuring within the retained buffer.

EPA notes that the potential impacts of riparian thinning on stream shade were evaluated as part of the Bureau of Land Management's Western Oregon EIS (BLM 2016).[4] BLM determined that minimal shade loss[5] resulting from proposed riparian forest thinning was a function of (1) the width of an "inner no-harvest" buffer, (2) the density of the "inner no-harvest" buffer, and (3) the amount of vegetation retained in the "outer thinned" buffer zone. A 60-foot-wide "inner no-harvest" buffer was required to maintain stream temperatures when riparian pre-thinning canopy cover density conditions were ≥ 80%. In addition, they reported that thinning levels within the "outer thinning treatment" buffer zone needed to be maintained above 50% canopy cover conditions following thinning activities.

- Describe the expected spatial extent to which the riparian buffer conditions will change throughout the NWFP area or watershed area(s), as well as the expected timeline for these changes. Evaluate if cumulative effects from these modified riparian management activities are present across these landscapes.
- Describe utilization of large woody debris (LWD) after riparian thinning. LWD promote pool creation and thermal/hydrologic complexity in the stream channel. Quantify how these changes will promote improved stream water quality conditions.
- Discuss consideration of water quality impacts and management decisions with respect to future conditions (e.g., address if minimization and mitigation methods for 2024 conditions will be sufficient for 2040 conditions).

***Road Sedimentation***

Roads can contribute more sediment to streams than any other management activity and interrupt the subsurface flow of water, particularly where roads cut into steep slopes. In addition, roads have been shown to produce elevated volumes of chronic surface sediment runoff from the road surface. Roads and their use contribute to habitat fragmentation, wildlife disturbance, and the introduction or exacerbation of noxious weeds. The EIS should include a description of how roads in the project area impact aquatic resources, provide the current number of road miles and density, and discuss the change in road miles, density, and usage levels that will occur as a result of the project. To the maximum extent practicable, EPA recommends utilizing the existing road system to minimize road construction impacts on previously unimpacted areas. EPA recommends the DEIS:

- Focus on the use of existing system roads to minimize road construction impacts on previously unimpacted areas to reduce adverse impacts to watersheds to the maximum extent practicable.
- Describe foreseeable new temporary road segments and maintenance of existing roads.
- For temporary roads and landings that must be constructed, discuss design criteria and best management practices that will be followed to prevent negative effects to soil and water resources.
- Minimize the number of stream crossings, and where stream crossings are unavoidable, construct during periods of low flow to avoid fish spawning and incubation periods, and/or dewater relevant stream segments prior to construction. Provide adequate drainage and erosion control to avoid routing sediment to streams.

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[4] Bureau of Land Management. 2016. Proposed Resource Management Plan/Final Environmental Impact Statement. https://www.blm.gov/programs/planning-and-nepa/near-you/oregon-washington/rmps-westernoregon (see Hydrology Section, Page 369 in Chapter 3) Accessed 1/26/2024.

[5] Groom et al 2011 determined that measurable stream temperature increases (i.e., >0.3*C) were observed when stream shade levels dropped by 6% following riparian harvest activities, and the BLM utilized a 50% margin of safety to estimate a potential non-deleterious shade loss threshold (i.e., 6% * 0.5 = 3%).

- Develop a monitoring plan and schedule to assess the effectiveness of road decommissioning after project completion.
- Discuss the Forest Service's use of Geomorphic Road Analysis and Inventory Package (GRAIP)[6] for small-scale sedimentation analysis or, likely more applicable to this project, GRAIP-lite[7] for broader sedimentation analysis.

***Applicability of Clean Water Act Authorizations***

EPA recommends that the DEIS address anticipated CWA authorizations, including:

- CWA § 402, which requires identification of any discharges to Waters of the United States (WOTUS) that are known, or are likely, to occur during construction and operation associated with the project and how these discharges would be managed and minimized.
- CWA§ 404, which requires permits from the U.S. Army Corps of Engineers for the discharge of dredged or fill material into WOTUS. Wetlands, vegetated shallows, mud flats, and cobble substrates are all considered special aquatic sites under the CWA Section 404(b)(1) Guidelines (40 CFR 230).
- CWA § 401, which requires coordination with states and authorized tribes to grant, deny, or waive certification of proposed federal licenses or permits that may discharge into WOTUS to help protect the water quality of federally regulated waters within their borders.

CWA § 303(d) requires states to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans (i.e., TMDLs) to improve water quality. EPA recommends the DEIS discuss to what extent the project will impact impaired waters and coordination with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

As the CWA antidegradation provisions will also apply, demonstrate that the proposed action will comply with antidegradation provisions of the CWA that prevent deterioration of water quality within waterbodies that currently meet water quality standards. The antidegradation provision of the CWA prohibits degrading water quality within water bodies that are currently meeting water quality standards.

**Purpose and Need**

The purpose of the proposed action is typically the specific objectives of the activity, while the need for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity. In the NEPA document, clearly identify the underlying purpose and need to which the Forest Service is responding in proposing the alternatives. Discuss the proposed project in the context of the other projects ongoing or proposed in the area.

**Alternatives**

EPA recommends the DEIS include a reasonable range of alternatives that meet the stated purpose and need for the project which are responsive to the issues identified during the scoping process. We encourage selection of alternatives that protect, restore, and enhance the environment. EPA supports efforts to identify and select alternatives that avoid, minimize, and/or otherwise mitigate

[6] https://www.fs.usda.gov/research/rmrs/projects/graip. Accessed 1/25/2024.
[7] https://www.fs.usda.gov/research/rmrs/projects/graiplite. Accessed 1/26/2024.

environmental impacts. Describe the rationale used to determine whether impacts of an alternative are significant or not. Present environmental impacts of the proposed action and alternatives in comparative form to define the issues and provide a clear basis for choice among options by the decision maker and the public. Describe how each alternative was developed, how it addresses plan objectives, and how it will be implemented. Quantify the potential environmental impacts of each alternative to the greatest extent possible (e.g., acres of habitat impacted, changes in water quality).

**Project Duration**

We encourage the Forest Service to include an estimated timeframe for this forest plan. While the plan was last updated in 1994, the EPA understands that the National Forest Management Act (NFMA) requires plans to be revised at least every 15 years (16 USC 1604 (f)(5)). Updates to forest plans using NFMA requirements would best address changed ecological and social conditions.

**Baseline Environmental Conditions**

When evaluating effects, we recommend using existing environmental conditions as the baseline for comparing impacts across all alternatives, including the no action alternative. Describing the baseline environmental conditions provides a useful frame of reference for quantifying and/or characterizing magnitudes of effects and understanding each alternative's potential impacts and benefits. It also allows for future changes to environmental resources to be more accurately measured for all alternatives, including the no action alternative. Detail environmental protections already in place that are based on current conditions, such as total maximum daily loads (TMDLs) for impaired creek segments. We recommend that the Forest Service consider the following when defining baseline conditions:

- Verify that historical data (e.g., data five years or older) are representative of current conditions.
- Include resources directly impacted by the project footprint, as well as the resources indirectly impacted by the project.

**Aquatic Habitat**

EPA recommends the DEIS describe aquatic habitats in the affected environment (e.g., habitat type, present plant and animal species, functional values, and integrity) and the environmental consequences of the proposed action on these resources. Evaluate impacts to aquatic resources in terms of the impacted acreage and by functions performed. Project construction, operation, and maintenance may affect a variety of aquatic resources. The project has potential to degrade habitat for fish and other aquatic biota, and these resources may experience varying degrees of impacts and alteration of their hydrologic functions. For any impacts that cannot be avoided through siting and design, describe the types, location, and estimated effectiveness of best management practices applied to minimize and mitigate impacts to aquatic resources.

**Biological Resources**

***Threatened, Endangered, and Sensitive Species***

EPA appreciates the Forest Service's ongoing coordination with the U.S. Fish and Wildlife Services and NOAA National Marine Fisheries other agencies to determine potential impacts of the project on species classified as threatened or endangered on either federal or state Endangered Species Act (ESA) lists and Forest Service designated sensitive species. We recommend that the DEIS:

- Discuss how this project's efforts will coordinate with other efforts to support the northern spotted owl, such as the Forest Service's ongoing Barred Owl Management Strategy.[8]
- Identify and quantify which species and/or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to species and/or critical habitat. Emphasize the protection and recovery of species due to their status or potential status under federal or state ESA.
- Include general locations of ESA-listed or sensitive species plants and disclose how these sites would be managed to avoid impacts on the plants.
- Discuss the project's consistency with federal or state ESA.
- Summarize, or include as an appendix, the USFWS's and NOAA's biological opinion and the Forest Service's biological evaluation. Demonstrate that the preferred alternative is consistent with both the biological opinion and biological evaluation.
- Ensure that USFWS's and NOAA's recommendations are included in Management Requirements.
- Discuss mitigation measures to minimize impacts to ESA-listed and sensitive species, describe the effectiveness of such measures, and indicate how they would be implemented and enforced.

***Other Wildlife Species***

We recommend the DEIS identify and quantify other wildlife species that might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. In addition, discuss the project's consistency with existing laws and regulations, including the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Magnuson-Stevens Act.

***Invasive Species***

EPA recommends the DEIS include measures that are consistent with Executive Order 13112 on Invasive Species. Discuss any existing Forest Service measures for noxious weed management, a description of current conditions, and best management practices, which will be utilized to prevent, detect, and control invasives in the project area. Discuss measures that would be implemented to reduce the likelihood of introduction and spread of invasive species within the proposed project area. We encourage the Forest Service to promote integrated weed management, with prioritization of management techniques that focus on non-chemical treatments first, and mitigation to avoid herbicide transport to surface or ground waters. Early recognition and control of new infestations is critical to stop the spread of the infestation and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on biodiversity, water quality, and aquatic resources.

**Air Quality**

EPA recommends the DEIS discuss ambient air conditions (existing conditions), National Ambient Air Quality Standards (NAAQS), and criteria pollutant non-attainment areas in the analysis area. Demonstrate compliance with state and federal air quality regulations and disclose the potential impacts from temporary or cumulative degradation of air quality. We recommend that the Forest Service characterize existing air quality conditions to set the context for evaluating project impacts, including identification of:

- Each criteria pollutant and their appropriate NAAQS, (i.e., ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead).

[8] https://www.fws.gov/project/barred-owl-management. Accessed 1/25/2024.

- Prevention of Significant Deterioration increment at potentially impacted Class I and Sensitive Class II Areas.
- Sensitive receptors in the vicinity (such as population centers, nonattainment areas, and Class II areas with sensitive resources).
- Airshed classifications and monitored baseline conditions (design values) for each criteria pollutant.
- Any regional concerns in the area (e.g., ozone, $PM_{2.5}$, seasonal wildfire smoke).

Evaluate whether project activities could affect air quality and include measures in the DEIS that are needed to prevent significant impacts. Examples of potential air emissions associated with the proposed project activities include air pollutants from: prescribed burns, pile burns, vehicle emissions from idling and traveling on paved and unpaved roads, and fugitive dust.

***Prescribed Burning and Pile Burning***

Prescribed fire and pile burning are valuable tools with ecological benefits, yet these activities have the potential to cause periodic degradation of air quality and visibility and may present a human health risk. While prescribed fire and pile burning impacts would likely be less severe than impacts from uncontrolled wildfires, it remains important to provide a quantitative analysis in the DEIS and information about public communication. EPA recommends that the DEIS:

- Provide an overview of the smoke management program that would be followed to avoid public health impacts and potential ambient air quality exceedances, both within the project area and off-site.
- Provide information on typical burn sizes and associated emissions estimates for anticipated burns.
- Describe potential short-term air quality impacts associated with burning.
- Discuss the planning process, including utilization of the National Wildfire Coordination Group Standards for Prescribed Fire Planning and Implementation guide (May 2022).[9]
- Utilize air curtain burners where possible to reduce smoke generation and promote full combustion of slash material. Air curtain burners that create biochar are preferred as applications would contribute to overall forest health and proposed restoration activities. We understand that Forest Service sometimes utilizes contracts for pile burning activities, and EPA encourages and supports the continued use of contracting out air curtain burners to reduce air quality impacts.
- Include a public communication plan and develop protective measures to mitigate smoke impacts (e.g., providing N95 masks; distributing educational fliers; burn notifications and translated material, if applicable; provide a representative to address public citizen questions and concerns)
- Account for disproportionate impacts to minority and low-income populations. See Environmental Justice section of this letter for more information.

[9] https://www.nwcg.gov/sites/default/files/publications/pms484.pdf. Accessed 1/18/2024.

***Valley Fever***

The project may be in an area the Centers for Disease Control and Prevention has suspected is endemic for *Coccidioides immitis*, a fungus causing Valley fever (*Coccidioidomycosis*) in humans.[10] According to the CDC, rising temperatures have allowed the fungus to spread to new areas that previously were too cold and wet for it to survive, including the entire project area. As a result, prescribed fire and fugitive dust could disperse *Coccidioides* spores, if present, to wildland firefighters as well as nearby communities. To reduce the human health risk of contracting Valley fever, it will be important to identify how the Forest Service will educate wildland firefighters and nearby communities about the risks of contracting Valley fever and its symptoms.

In the DEIS, identify measures to prevent or reduce the risk of exposure to wildland firefighters, including training for workers and supervisors on the potential presence of Valley Fever spores, methods to minimize exposure, and how to recognize symptoms. For wildland firefighters, mitigation measures could include limiting workers' exposure to disease-endemic areas by directing wildlife firefighters to remove dusty clothing after fieldwork and store in closed plastic bags until washed. When exposure to dust is unavoidable, provide approved respiratory protection to filter particles. For the community, mitigation measures could include ensuring air-conditioned buildings are available for community members without air-conditioning if prescribed burns would take place in warm ambient temperatures.

**Climate Change**

EPA appreciates that the NWFP Amendment will support adaptation to and mitigation of climate change in the project area. We recommend that the DEIS include a discussion of reasonably foreseeable effects that changes in the climate (e.g., changes in precipitation patterns, hydrology, vegetation distribution in respective watersheds, and temperature) may have on the proposed project, and what impacts the proposed project will have on climate change consequences. Consistent with Executive Order 14008 on *Tackling the Climate Crisis at Home and Abroad*, we encourage the Forest Service to include management actions to provide for diverse, healthy ecosystems that are resilient to climate stressors; require effective mitigation and encourage voluntary mitigation to offset the adverse impacts of projects or actions; reduce greenhouse gas emissions from authorized activities to the lowest practical levels; identify and protect areas of potential climate refugia; reduce barriers to plant migration; use pollinator-friendly plant species in restoration and revegetation projects; and design facilities to mitigate potential structural impacts associated with extreme weather events.

**Environmental Justice**

Executive Order 14096 on *Revitalizing Our Nation's Commitment to Environmental Justice for All* highlights the need for a whole-of-government effort to confront longstanding environmental injustices and inequities. Consistent with Executive Order 12898, Executive Order 14096 calls on each agency to make achieving EJ part of its mission, including by carrying out environmental reviews under NEPA in a manner that analyzes direct, indirect, and cumulative effects of federal actions on communities with EJ concerns.

[10] Centers for Disease Control and Prevention. (2023, July 2023). Valley Fever (Coccidioidomycosis) Awareness. https://www.cdc.gov/fungal/features/valley-fever.html. Accessed 1/26/2024.

EJScreen is EPA's environmental justice screening and mapping tool.[1] EJScreen offers a variety of powerful data and mapping capabilities that enable users to understand details about the population of an area and the environmental conditions in which they live. The tool provides information on environmental and socioeconomic indicators as well as pollution sources, health disparities, critical service gaps, and climate change data. The data is displayed in color-coded maps and standard data reports which feature how a selected location compares to the rest of the nation and state.

Assessing data from EJScreen is a useful first step in identifying locations in the area that may be candidates for further review or targeted outreach. EPA considers a project to be in an area of potential EJ concern when an EJScreen analysis for the impacted area shows one or more of the EJ Indexes at or above the 80$^{th}$ percentile in the nation and/or state. At a minimum, EPA recommends an EJScreen analysis consider EJScreen information for the block group(s) which contains the proposed action(s) and a one-mile radius around those areas. We advise against using larger tracts, such as cities or counties, as these often dilute the presence of low-income and minority populations.

It is important to consider all impacted areas by the proposed action(s). Areas of impact can be very focused and contained within a single block group, or broader, spanning across several block groups and communities.[11] Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators.[12] Therefore, additional review or outreach may be necessary for the proposed action. To address these potential concerns, EPA recommends the DEIS:

- Apply methods from "Environmental Justice Interagency Working Group Promising Practices for EJ Methodologies in NEPA Reviews" report to this project.[13]
- This report compiles methodologies from current agency practices for integrating EJ considerations in NEPA processes. The Promising Practices Report provides particularly useful guidance in assessing the potential direct and indirect impacts of a project, as well as the potentially increased vulnerabilities certain populations may have due to the cumulative impacts of environmental harm.
- Apply guidance from the Council of Environmental Quality's guidance document "Environmental Justice Guidance Under the National Environmental Policy Act" to this project (CEQ's EJ Guidance).[14]
- Characterize the project site with specific information or data related to EJ concerns.[15]

[11] Agencies should define community as "either a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions" (Interim Justice40 Guidance – Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad, January 27, 2021).

[12] EPA's Technical Documentation for EJScreen: https://www.epa.gov/ejscreen/technical-information-about-ejscreen. Accessed 8/1/2023.

[13] Promising Practices for EJ Methodologies in NEPA Reviews: https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf. Accessed 8/1/2023.

[14] Environmental Justice Guidance Under the National Environmental Policy Act: https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf. Accessed 8/1/2023.

[15] For more information about potential EJ concerns, refer to the July 21, 2021, Memorandum for the Heads of Departments and Agencies Interim Implementation Guidance for the Justice40 Initiative: https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf. Accessed 8/1/2023.

- Describe potential EJ concerns for all EJ Indexes at or above the 80th percentile in the state and/or nation.
- Screen for and describe all individual block groups within or intersecting a 1-mile radius of the project.
- Describe individual block groups within the project area in addition to an area-wide assessment.
- Where available, supplement data with state and county level reports and local knowledge such as Washington's Environmental Health Disparities mapping tool.[16]
- Where available, supplement data with state and county level reports and local knowledge such as data from Rural Health Information Hub Oregon State Guide.[17]
- Where available, supplement data with state and county level tools,[18] reports, and local knowledge such as California's Department of Public Health. EPA notes that in California, a low-income population may not be accurately recognized by U.S. Census Bureau data as it does not account for California's housing costs or other critical family expenses and resources. The California Department of Public Health suggests that "200% of the federal poverty level (FPL) is a more realistic measure of financial hardship than the official 100% FPL" due to California's high cost of living.[19] Therefore, we recommend that the Forest Service consider using a 200% FPL when analyzing low-income populations in California. The NEPA Committee of the Federal Interagency Working Group on Environmental Justice has noted that, in some cases, it may be appropriate to use a threshold for identifying low-income populations that exceeds the poverty level.[20]

It is important to consider both the potential short-term impacts of the proposed action(s) (e.g., disrupted air quality), along with the potential long-term impacts on communities with EJ concerns.

We recommend the DEIS explain how the USDA's Guidance, "Equity Action Plan"[21] is considered and incorporated into analysis.

***Smoke-Sensitive Communities***

EPA appreciates that one of the project goals is to lessen the impacts of uncontrolled wildfire to communities. We encourage the Forest Service to account for smoke-sensitive communities when analyzing fuel management techniques such as prescribed burns. People of low socio-economic status may be at greater risk of experiencing a health effect due to smoke, including prescribed burns, and may experience more severe effects.[22] Socio-economic status uses indicators such as educational

[16] https://fortress.wa.gov/doh/wtn/WTNIBL/. Accessed 1/26/2024.
[17] https://www.ruralhealthinfo.org/states/oregon. Accessed 8/1/2023.
[18] CalEnviroScreen 4.0. https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40. Accessed 1/25/2024.
[19] https://data.chhs.ca.gov/dataset/4ea80791-c308-4026-8a94-0e9070b53929/resource/ea66eef9-d854-4792-a587-636579780481/download/hci-one-page-poverty-fact-sheet-june-2019-lm.pdf. Accessed 8/1/2023.
[20] https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf. Accessed 8/1/2023.
[21] https://www.usda.gov/equity/action-plan. Accessed 1/26/2024.

[22] U.S. EPA. October 2022. Which Populations Experience Greater Risks of Adverse Health Effects Resulting from Wildfire Smoke Exposure? Available at https://www.epa.gov/wildfire-smoke-course/which-populations-experience-greater-risks-adverse-health-effects-resulting. Accessed 1/25/2024.

attainment, median household income, percentage of the population in poverty, race/ethnicity, and location of residence. Epidemiologic studies of fine particle pollution using indicators of socio-economic status provide initial evidence that populations of low socio-economic status may have an increased risk of mortality due to short-term exposures. In addition, socio-economic status may contribute to differential exposures to wildfire smoke across communities. For example, access to air conditioning reduces infiltration of particle pollution indoors. Less access to air conditioning may lead to greater exposure to wildfire smoke, increased sensitivity to extreme heat and, as a result, health disparities across communities. People of color and impoverished children and adults bear a disproportionate burden of asthma and other respiratory diseases and therefore they may be at increased risk of health effects from wildfire smoke exposure. As a result, additional outreach activities and support may be required to properly communicate actions that people of low socio-economic status should take to reduce exposure to and protect themselves from wildfire smoke.

If it is determined that minority and low-income populations may be disproportionately impacted, describe in the DEIS the measures taken by the Forest Service to fully analyze the environmental effects of the action on minority communities and low-income populations and identify potential mitigation measures. We recommend providing opportunities for effective community participation including identifying potential effects and mitigation measures in consultation with impacted communities. Mitigation measures could include ensuring public notification procedures occur for all project area fuel treatments and pile burns, and media releases to inform locals and visitors about the expected impacts of the fire (specifically related to smoke, closures, and restrictions).

**Tribal Consultation**

EPA appreciates that the Forest Service is amending the NWFP in part to incorporate Tribal input that was overlooked during the initial 1994 effort, and we recognize the Forest Service is consulting with the Tribes. EPA recommends the DEIS describe the issues raised during the consultations and how those issues were addressed. Summarize the results of Tribal consultation and identify the main concerns expressed by tribes, how those concerns were addressed, and what additional or continuing consultations may be warranted. We also recommend identifying any protection, mitigation, and enhancement measures identified by Tribes.

**Cumulative Effects**

Cumulative impacts are identified in 40 CFR 1508.1(g)(3) as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions over a period of time.” EPA recommends that the DEIS consider evaluation of impacts of activities (e.g., riparian management actions, prescribed burning) over the entire area of impact and consider the effects of the project when added to other past, present, and reasonably foreseeable future projects in the planning area.

In the cumulative impacts analysis, identify how resources, ecosystems, and communities in the vicinity of the planning area have already been, or will be, affected by past, present, or future activities. Characterize these resources in terms of their response to change and capacity to withstand stresses. We recommend focusing on resources of concern or resources that are “at risk” and/or are significantly impacted by the project before mitigation. This analysis provides an opportunity to

identify potential large, landscape-level regional impacts, as well as potential large-scale mitigation measures. EPA recommends that the DEIS identify which resources will be analyzed, which ones are not, and why. For each resource analyzed, we recommend identifying the following:

- Current condition of the resource as a measure of past impacts.
- Trends in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- On-going, planned, and reasonably foreseeable projects in the study areas which may contribute to cumulative impacts.
- Future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Mitigation measures or conservation management actions that can be consistently and transparently applied to future projects.

**Monitoring and Adaptive Management**

EPA recommends the DEIS describe the features of an effective monitoring plan, including adaptive management components, for project activities. In addition to targets that specify a desired future condition, include environmental thresholds with protocols to assess whether specific thresholds are being met for each impacted resource (e.g., water and air resources). EPA also recommends the DEIS describe any proposed deviations from existing NWFP effectiveness monitoring programs, such as the Aquatic and Riparian Effectiveness Monitoring Program (AREMP), and how and with what resources the Forest Service will conduct the monitoring necessary to ensure the project is meeting objectives and avoiding impacts as predicted. Monitoring results may reflect a need to modify management actions. EPA's recommendations for adaptive management practices include:

- Specific environmental thresholds which would trigger action.
- Management alternatives and mitigation measures that would be implemented if thresholds are exceeded.
- An evaluation procedure for determining the effectiveness of the implemented mitigation and further measures to take in cases of ineffectiveness.
- A description of the mechanisms for the public disclosure of monitoring data, its analysis, and related management decisions.

**Mitigation**

We recommend the DEIS identify the mitigation that will be applied to the Forest Service's authorized activities, including what entity will be executing the mitigation and associated activities (e.g., inspection schedules, documentation procedures, and accountability processes). With these considerations in mind, we recommend the DEIS include the following information for each mitigation measure in the mitigation plan:

- A description of the required mitigation and its expected effectiveness.
- Designation of the entity responsible for implementing the mitigation.
- Identification of how the Forest Service would ensure that the mitigation would be monitored to ensure timely and correct implementation as well as timely maintenance.
- Identification of funding sources and any financial assurance requirements.