Data Submitted (UTC 11): 3/2/2023 8:00:00 AM
First name: Sarah
Last name: Samples
Organization: U.S. EPA
Title: Life Scientist
Comments: The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. The EPA also submitted scoping comments on June 17, 2022.The U.S. Forest Service proposes large scale restoration across 117,000 acres in the Klamath National Forest in Siskiyou County, California to respond to conditions created by the Antelope and Tennant Fires in 2021. The Draft EA analyzes the potential environmental impacts that would result from implementing 12 types of activities on approximately 60,000 acres, including roadside hazard tree removal, prescribed fire, and restoration. Treatments are expected to occur for five to ten years. The EPA supports the objectives of the Antelope and Tennant Fire Recovery Project, and we recognize that both the timing of treatments and an efficient NEPA process are critical for efforts to be effective.Following our review of the Draft EA, the EPA has identified additional analyses for the Forest Service to complete in order to disclose impacts of the project, best inform a potential Finding of No Significant Impact, and identify potential mitigation measures. The EPA recommends that the Final EA include comprehensive analysis of impacts to air quality, water resources, and biological resources, including an assessment of post-fire conditions. Please see our enclosed Detailed Comments for a description of recommendations.The EPA appreciates the opportunity to review this Draft EA. When the Final EA and FONSI are available.

EPA[rsquo]S DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE ANTELOPEAND TENNANT RECOVERY PROJECT, SISKIYOU COUNTY, CALIFORNIA [ndash] MARCH 2, 2023Site-Specific Analyses, Tiering, and Incorporation by ReferenceThe Draft EA states that the analysis tiers to the Klamath National Forest[rsquo]s Record of Decision for its 1995Forest Plan and incorporates by reference the 1994 Final EIS and the updated 2010 Forest Plan (p. 45).These documents analyze and disclose impacts on a larger programmatic scale; however, the historical1994 Final EIS also includes direction for site-specific analyses for future project level actions to assessimpacts to certain resources, such as biological resources. Without site specific information for impactsto these resource areas, it is unclear whether the project would result in significant impacts, and moreinformation is needed to support a Finding of No Significant Impact. Further, where tiering andincorporation by reference is warranted to streamline the NEPA process, the document does notsummarize the applicable issues for this project as recommended in the Council of EnvironmentalQuality NEPA Implementing regulations (40 CFR 1501.11(b)). Without a summary of the relevant areasof impact and prior analyses that are being relied upon to support disclosure and decision-making, it isunclear what impacts are anticipated.Recommendations for the Final EA:[bull] Include site-specific, project level analyses for potential impacts to air quality, water resources,and biological resources, as described in the resource sections below, to further inform thedisclosure of impacts and improve decision-making to support the FONSI.[bull] For any resource impacts the Forest Service does not analyze at the project-level in the FinalEA and chooses to address through [ldquo]incorporation by reference,[rdquo] include a summary of thepotential impacts anticipated to each resource area. Ideally, all summary references shouldinclude the specific document and page numbers to assist the reader in retrieving the analyses(40 CFR 1501.12). Based on the design features listed in Appendix B, the summaries toprovide in the Final EA include, but are not limited to, archaeology, botany, geology, nonnativeinvasive species, range, recreation and scenery, and soils impacts.Project TimelineThe Draft EA does not disclose a project timeline or implementation plan of treatment types; however, weunderstand that treatments may occur for five to ten years with immediate prioritization of roadside hazardtree removal and salvage for site preparation (L. Bousfield, personal communication, February 17, 2023).Due to the large size of the treatment area, an estimated timeline is important in assessing whethersignificant impacts would occur. This would provide a clearer framework for improved accountability,tracking, and decision-making. In addition, the Draft EA states there are twelve treatment types on page 3;however, pages 3-12 list fourteen treatment types.Recommendations for the Final EA:[bull] Disclose the estimated project timeline and discuss the prioritization of treatment

types.[bull] Ensure the number of proposed treatment types are consistent.Tribal ConsultationThe Draft EA states that the Forest Service consulted with the Klamath Tribes, Modoc Tribe of Oklahoma,Pitt River Tribe, and the Shasta Indian Nation by mailing scoping letters and states that no concerns wereraised (p. 43). The Advisory Council on Historic Preservation (ACHP) considers consultation as [ldquo]more
than simply notifying an Indian tribe about a planned undertaking.[rdquo]1 While consultation should begin witha formal letter, the ACHP advises that [ldquo][f]ace-to-face meetings or on-site visits may be the most practicalway to conduct consultation.[rdquo] As such, we encourage the Forest Service to further engage with these fourtribes, as well as any other tribes that may have a historical connection and traditional practices within theproject area. If the Forest Service needs assistance with identifying appropriate tribal contacts, EPARegion 9 is available to provide current tribal contact information if needed.Recommendations for the Final EA:[bull] Further engage with the four tribes (and any additional tribes, as warranted) prior to thedetermination of a FONSI and summarize the results of expanded tribal consultation, identifythe main concerns expressed by tribes (if any), and address how those concerns wereconsidered in the project design, implementation schedule, and identification of mitigationmeasures.[bull] Consider the ACHP advice to consult through in person meetings or on-site visits.Air QualityPrescribed fire is a valuable tool that can have ecological benefits over other treatment techniques, yet ithas the potential to cause periodic degradation of air quality and visibility and may present a humanhealth risk. Potential air emissions associated with the proposed project activities also include airpollutants from gasoline and diesel equipment and vehicles traveling on paved and unpaved roads,including re-entrained dust. In addition to the health-based National Ambient Air Quality Standards thatprotect ambient air quality, the Clean Air Act provides Class I Areas special protection for air qualityand air quality related values, including visibility. Although not disclosed in the Draft EA, the LavaBeds National Monument is Class I area near the project area. Additionally, there are nearby towns andClass II areas with sensitive resources, including the Lower Klamath and Tule Lake National WildlifeRefuges. It is unknown what measures are in place to avoid impacts to both Class I and II areas.While the Draft EA includes references to similar project-level EIS air quality analyses (p. 45), werecommend including an Air Quality Section and an overview of site-specific impacts in the Draft EA,including the method the Forest Service will use to notify the public of these burns, as described belowin more detail, and potential impacts to Class I and II areas. This is especially important given that theprescribed burns may occur on up to 35,000 acres (p. 14). We also recommend that the Forest Serviceimplement best management practices as prescribed by the National Wildfire Coordination Group (NWCG)to reduce emissions from prescribed burns and other fuel treatments to the greatest possible extent.Recommendations for the Final EA:[bull] Include an air quality section to disclose different sources of air pollutants or emissionsassociated with the project activities and potential impacts.[bull] To the extent possible, conduct burns during favorable wind conditions to avoid smokemigrating in the direction of Class I and II areas.[bull] Implement BMPs as prescribed by the NWCG.Environmental Justice and Prescribed Burn Public NotificationThe 1994 Final EIS did not include an environmental justice analysis and the Draft EA states that [ldquo]therewould be no disproportionate effects on minorities or low-income population[sic][rdquo] (p. 38); however, it isunclear how this determination was made. The Draft EA indicates there are a high proportion of lowerincome people living in the vicinity of the project area as compared to other areas of California.Although not disclosed in the Draft EA, EJScreen also identifies that block groups 060930001001 and060930002002 contain 53 percent and 69 percent of minorities, respectively, and over 22 percent ofhouseholds in both block groups speak English less than very well.People of low socio-economic status may be at greater risk of experiencing a health effect due towildfire smoke, including prescribed burns, and may experience more severe effects.4 Socio-economicstatus uses indicators such as educational attainment, median household income, percentage of thepopulation in poverty, race/ethnicity, and location of residence. Epidemiologic studies of fine particlepollution using indicators of socio-economic status provide initial evidence that populations of lowsocio-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 toair conditioning may lead to greater exposure to wildfire smoke, increased sensitivity to extreme heatand, as a result, health disparities across communities. People of color and impoverished children andadults bear a disproportionate burden of asthma and other respiratory diseases and therefore they may beat increased risk of health effects from wildfire smoke exposure. For example, EJScreen indicates thatblock groups 060930001001

and 060930002002 are in the 80th to 90th percentile for asthma prevalenceamong adults aged 18 or older. As a result, additional outreach activities and support may be required toproperly communicate actions that people of low socio-economic status should take to reduce exposureto and protect themselves from wildfire smoke.We appreciate the current efforts of the Forest Service to notify the public of burns, including focusedemails and physical and in-person notifications. In our conversation with the Forest Service on February17, 2023, we highlighted additional methods to notify the public of burns through the Klamath NationalForest[rsquo]s website and Facebook page.Recommendations for the Final EA:[bull] Include additional supporting information to justify the conclusion from the EnvironmentalJustice analysis (p. 38) that [ldquo]there would be no disproportionate effects on minorities or lowincomepopulation[sic][rdquo].[bull] Provide additional information about meaningful outreach with potentially affectedcommunities. Discuss the public notification procedures for planned burns and ensure thateach planned burned notifies and reaches communities that may not have access to theinternet. Provide in-person, door-to-door notification as appropriate.[bull] Add burn notifications to the Klamath National Forest[rsquo]s website and Facebook page andtranslate both sources to Lao and Spanish to notify linguistically isolated populations.Pile BurningAlthough pile burning is included in the proposed action to treat activity-generated fuels, it is unclearwhether the Forest Service develops plans for pile burns, if there is a burn plan process alreadyestablished for this project, and if pile burns would be subject to the same process that is utilized forprescribed fire treatments as described in the NWCG Standards for Prescribed Fire Planning andImplementation (May 2022).The EPA also notes that it may be appropriate to utilize equipment such as air curtain burners to reducesmoke generation and promote full combustion of slash material. The reduction in emissions achievedfrom utilizing air curtain burners to process residual fuels can be considerable; according to a reportprepared by the Forest Service scientists with the Rocky Mountain Field Station, Fire SciencesLaboratory, emissions from prescribed burns averages 36 pounds per ton of PM2.5, emissions from pileburns 25.5 pounds per ton, and the emissions from an air curtain burner creates only 1.1 pound per ton.Recommendations for the Final EA:[bull] Include information about the pile burn plan process and if pile burns would be subject to thesame process utilized for prescribed fire treatments as NWCG[rsquo]s recommended standards.[bull] Consider using air curtain burners to reduce emissions from pile burning. If possible, usemodels that create biochar to benefit ongoing revegetation and soil erosion control efforts.Design FeaturesThe design features for air quality include direction that [ldquo][f]ugitive dust emissions, dispersion, and transportwould be minimized for commercial operations by treating unpaved haul routes with water or chemical dustsuppressants[rdquo] (p. 51). It is unclear why this design feature is confined to commercial operations. In addition,it does not appear there are any other design features related to air quality impacts; therefore, we recommendthat the Forest Service consider additional measures to reduce air quality impacts.Recommendations for the Final EA:[bull] Clarify if non-commercial operations would also treat for fugitive dust emissions.[bull] Consider including the following measures in Appendix B as project design features:Fugitive Dust Control:o Limit vehicle speeds to 15 miles per hour on unpaved roads (i.e., Maintenance Level 1).Mobile and Stationary Source Controls:o Reduce unnecessary idling from heavy equipment.o Prohibit engine tampering to increase horsepower, except when meeting manufacturer[rsquo]srecommendations.o Lease or buy newer, cleaner equipment using the best available emissions controltechnologies.o Use lower-emitting engines and fuels, including electric, liquified gas, hydrogen fuelcells, and/or alternative diesel formulations, if feasible. Nonroad vehicles and equipmentshould meet or exceed the EPA Tier 4 exhaust emissions standards for heavy-duty nonroadcompression-ignition engines (e.g., nonroad trucks, construction equipment, etc.)Administrative Controls:o Locate diesel engines, motors, and equipment staging areas as far as possible fromresidential areas and other sensitive receptors (e.g., schools, daycares, hospitals, seniorcenters, etc.).o Prepare an inventory of all equipment prior to construction and identify the suitability ofadd-on emission controls for each piece of equipment before project implementation.7o Identify where implementation of mitigation measures is rejected based on economicinfeasibility.Fuels:o Disclose that the smoke management plan will be submitted to the appropriate AirQuality Management District and the Air Quality Management District will approve allburning activities prior to implementation.o Prepare burn plans to outline preferable wind directions, wind speeds, and proper fuelmoistures to ensure adequate smoke dispersal and limit potential effects to smokesensitive receptors.Water ResourcesAs noted above, the project does not include a water resources analysis and impacts to the watershed andwater quality are unknown. The EPA is concerned that this information is not disclosed, including anoverview

of the post-fire watershed conditions, current Clean Water Act 303(d) listed waterbodieswithin the project area, and site-specific evaluation of the direct, indirect, and cumulative impacts. Forexample, the Antelope and Tennant Fires have the potential to comprise water quality for years to comedue to greater rates of erosion, thus possibly increasing the downstream accumulation of sediment inwaterbodies.8 In addition, the project area contains waterbodies within the Klamath River hydrologicalunit that are 303(d) listed.Similar projects, such as the Horse Creek Community Protection and Forest Restoration Project, usedcumulative watershed effects models (e.g., equivalent roaded area, universal soil loss equation, and masswasting)and incorporated the impacts of recent fires to assess effects of past, present, and reasonablyforeseeable activities and provide a picture of post-fire watershed conditions (Horse Creek Final EIS p.164). We recommend that the Final EA address its water resources analysis with a similar approach.Recommendations for the Final EA:[bull] Include a water resources section to disclose potential direct, indirect, and cumulativeimpacts of project activities.[bull] Ensure that the analysis of impacts to aquatic resources includes an overview of the post-firewatershed conditions, current Clean Water Act 303(d) listed waterbodies within the projectarea, and effects of past, present, and reasonably foreseeable activities.[bull] If specialist reports were or are prepared, similar to the preparation of a biological evaluationas discussed above, we recommend attaching the report(s) as an appendix and summarizingthe existing conditions and impact analysis in the Final EA to help to ensure a comprehensivepicture of the project and its impacts for the public and the decision-makers.Roads/SedimentIt is unclear if watersheds within the project area are already experiencing road-related impacts and ifdownstream impacts would result in measurable changes. Given the sensitive downstream resources andthe existing issues with roads, sediment, and watershed health, we strongly encourage the Forest topursue opportunities to reduce the number of new and temporary roads.With 17 miles of existing and new temporary roads proposed for use (not including the landing areas),we encourage the Forest Service to directly consider road-related sediment impacts. Tools such as theGeomorphic Roads Assessment Inventory Package (GRAIP)[rsquo]s GIS-based counterpart, GRAIP_Lite, canprovide a helpful screen of potential road-related sediment.Recommendations for the Final EA:[bull] Identify opportunities to reduce the total number of new and temporary roads associated withthe proposed project.[bull] Include an analysis of road-related sediment (using a tool like GRAIP_Lite, for example) andidentify measures to reduce road related sediment where impacts to sensitive areas are identified.Impacts to Aquatic Resources and Clean Water Act Section 404 PermittingThe Draft EA proposes treatments for meadow and wetland restoration. Meadows provide hydrologicaland water quality functions by improving water quality in headwater streams and often support rareassemblages of aquatic invertebrates. To limit the impacts of vegetation and fuels management activitiesto hydrology and riparian vegetation, the Draft EA includes several design features (p. 56, 59). Due tothe vulnerability of these ecosystems, other measures would be beneficial to further reduce impacts.Recommendations for the Final EA: We recommend that design features in the Final EA berevised to include additional commitments to measures specific to meadows and wetlands.[bull] Conduct work in the dry season (June-October), if possible. Disclose the limited operatingperiod(s).[bull] Remove logs from meadows using suitable techniques to minimize equipment operations inthe sensitive area and minimize dragging the logs on the ground.10[bull] Monitor restoration to evaluate the success of management activities by including follow-upmonitoring and assessments as a component of management plans.[bull] All measures listed on pages 8-9 of the Draft EA.The Draft EA does not state if fill is part of the project and if Clean Water Act Section 404 permits wouldbe required. The purpose of the Clean Water Act is to restore and maintain the chemical, physical andbiological integrity of waters of the United States. These goals are achieved, in part, by controllingdischarges of dredged or fill material pursuant to EPA[rsquo]s Federal Guidelines for Specification of DisposalSites for Dredged or Fill Materials (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA(Guidelines). Fundamental to the Guidelines is the principle that dredged or fill material should not bedischarged into the aquatic ecosystem, unless it can be demonstrated that there is no less environmentallydamaging practicable alternative that achieves the Applicant[rsquo]s project purpose. In addition, no dischargecan be permitted if it will cause or contribute to significant degradation of waters.Recommendations for the Final EA:[bull] Discuss the applicability of CWA Section 404 to the impact of meadows and wetlands.[bull] If applicable, discuss the permit requirements under this statute, identify the role of the ArmyCorps of Engineers in implementing these programs, describe the results of the CWA Section404 impacts analysis, and include proposed mitigation.WildlifeThe Scoping Outcome Summary states that the Forest Service would [ldquo]include analysis and documentationof

compliance with direction related to Threatened, Endangered, Proposed, Forest Service Sensitive,Survey and Manage, Migratory Bird, and Management Indicator Species.[rdquo]11 While the Draft EA statesthat the Forest Service prepared both a biological assessment and evaluation, the Draft EA did not discloseinformation from either document, and the Forest Service was unable to the provide the documents to EPAduring the public comment period. As such, the EPA was unable to review impacts to species and it is notclear how a FONSI will be supported even with the inclusion of design features.Recommendation for the Final EA: Disclose the affected environment and potential impacts towildlife habitat and movement from project activities, including cumulative impacts of any past,present, and future projects.We recognize important design features in Appendix B for a variety of species (p. 60-63); however,Pacific marten is not included. We also find that an additional measure may be beneficial to furtherreduce impacts to migratory birds.Recommendations for the Final EA:[bull] Disclose design features to reduce impacts to the Pacific marten.[bull] Follow a limited operating period for tree removal and any underburning in the meadow andriparian enhancement areas to protect nesting migratory birds.Threatened and Endangered SpeciesAlthough the Draft EA states that the project would not significantly affect a threatened, endangered, orproposed or candidate species or their critical habitat, no information about the affected environment orpotential impacts are disclosed to support this determination. We are concerned that this informationwas not available to the public during the comment period, particularly due to treatments occuringwithin Northern spotted owl critical habitat.12 We also understand that the Forest Service prepared asite-specific biological assessment and consulted with the U.S. Fish and Wildlife Service under Section7 of the Endangered Species Act (p. 36). As noted above, the Forest Service was unable to provide theEPA with the biological assessment during the review period; therefore, it is unclear if the designfeatures included specific recommendations from the USFWS, especially those supporting recoveryactions of the 2011 Revised Recovery Plan for the Northern spotted owl (Final EIS p. 4-63).Recommendations for the Final EA:[bull] Continue to coordinate with the USFWS regarding recommendations for threatened andendangered species management and disclose the affected environment and impacts to ESAlistedspecies from project activities, or append the biological assessment. Describe howcumulative impacts of any past, present, and future projects have been assessed and havecontributed to the proposed project implementation. Include USFWS[rsquo]s recommendationsfrom site visits and the biological assessment as specific design features in Appendix B.Invasive SpeciesWe appreciate the invasive species measures included in Appendix B (p. 52-53). Due to the projectsite[rsquo]s vulnerability to the spread of invasive species (Botanical Resources Short Form Report p. 5), othermeasures may be beneficial to further reduce the establishment of invasive species.Recommendations for the Final EA: Consider including the following measures in Appendix Bas project design features:[bull] Apply mulch on disturbed bare ground created during project implementation (e.g.,temporary roads, landings, and other openings) to achieve 70 percent cover.[bull] Monitor within three years to identify non-native invasive plant infestations for actionsinvolving ground disturbance or use of imported materials.[bull] Monitor treated infestations for a minimum of three years and re-treat as necessary to ensureinfestation site is eradicated.Additional Design FeaturesWe appreciate the design features in Appendix B and recommend that the Forest Service consideradditional measures to reduce impacts to resources not described above.Recommendations for the Final EA: Consider including the following measures in Appendix Bas project design features:Recreation[bull] Limit the number of locations where mechanical equipment operations intersect with existingtrail networks. Rehabilitate all ground disturbance once treatment activities are completed.Repair or re-construct marred or damaged trail segments, as necessary, to current ForestService standards.[bull] Construct firelines for prescribed burning as close as possible to when burning is scheduled.[bull] Disguise intersections of constructed fireline with existing system routes (all roads and/ortrails) by covering with duff and or down woody material for 50 feet from intersections untilburning is scheduled to take place to prevent development of new unauthorized trails.[bull] Rehabilitate firelines for prescribed burning along their entire length as soon as possible afterprescribed fire is applied to prevent development of new unauthorized trails.Silviculture[bull] Place burn piles at least 15 feet away from the base of residual trees. (We note Watershed-3addresses placement of burn piles away from residual trees but does not provide a distance.)If pile burning results in mortality in excess of Forest Plan standards, conduct with naturalresource staff for salvage of salvage of dead and dying trees.[bull] Chip away from large legacy trees, where feasible.[bull] Retain snags, live decadent trees suitable for cavity nesting wildlife, mid- and large diametertrees currently in decline, and dead/down woody material to the extent possible.[bull] Limit landing

sizes to the smallest size necessary to accommodate operations.[bull] Remove roadside hazard trees in accordance with the Hazard Tree Guidelines for ForestService Facilities and Roads in the Pacific Southwest Region (USDA Forest Service, 2012).(Although this is noted in the Draft EA, it is not included in design features.) Do not removehazard trees greater than 30 inches DBH if retention can improve wildlife habitat and isconsistent with project fuels objectives.Visual Resources[bull] When selecting burn pile locations, minimize visibility from private residences, recreationsites, trails, and nearby roads to reduce visual effects. Where feasible, place burn piles as faras treatment allows from designated recreation sites.