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Northern Region, Nez Perce-Clearwater National Forests

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# Final Environmental Impact Statement for the Land Management Plan

## *Appendix L: Air Quality*

### Nez Perce-Clearwater National Forests



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## **Final Environmental Impact Statement for 2023 Land Management Plan for the Nez Perce-Clearwater National Forests**

Idaho, Clearwater, Lewis, Latah, Shoshone and Benewah Counties, Idaho

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United States Department of Agriculture (USDA)- Forest Service

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Clearwater County, Idaho  
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**Abstract:** This Final Environmental Impact Statement documents the analysis of the Preferred Alternative and four additional action alternatives developed for programmatic management of the four million acres of National Forest system lands administered by the Nez Perce-Clearwater National Forests. The purpose is to provide land management direction for the Nez Perce-Clearwater National Forests, combining the 1987 Nez Perce National Forests Land Management Plan and the 1987 Clearwater National Forest Land Management Plan into one plan for the Nez Perce-Clearwater National Forests, now managed as one administrative unit.

## Introduction

Table 3 in the Air Quality section of the Final Environmental Impact Statement (Section 3.2.10) was created to support the statement in the introductory paragraph: “of all potential sources of air pollution from management activities that occur on the Nez Perce-Clearwater, smoke is the most substantial contributor to air quality and visibility.” The methodology for quantifying the impacts from smoke to air quality and visibility is described below.

## Methodology: Data and Information Sources for Emissions Analyses

Air quality emissions data was obtained and aggregated by functional category to quantify emissions differences by emission source to determine the impact from air quality and visibility on the Nez Perce-Clearwater National Forests. Data quantifying air quality emissions by source was obtained from the Environmental Protection Agency’s 2014 National Emissions Inventory (<https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>). At the time of this report, the Environmental Protection Agency’s 2017 National Emissions Inventory only included data for stationary sources; therefore, the in-progress analysis was not adequate to support this report and the 2014 data was used instead. The Environmental Protection Agency’s 2014 National Emissions Inventory includes emissions information from both criteria and hazardous air pollutants; however, this analysis focused solely on criteria air pollutants. Smoke from wildfires can contain many potential air pollutants, but criteria air pollutants are six common air pollutants for which the Environmental Protection Agency sets National Ambient Air Quality Standards, which effectively creates time series concentrations of emissions for the protection of public health. On the other hand, hazardous air pollutants are regulated via emissions controls with maximum available control technology. The National Ambient Air Quality Standards for criteria air pollutants and their associated standards are detailed in Table 1 of the Draft Environmental Impact Statement Air Quality section. Criteria air pollutant emissions, measured in tons per year, were obtained from all emission sources in the three Idaho counties – Idaho, Clearwater, and Shoshone – that contain the Nez Perce-Clearwater National Forests. Emissions are aggregated by source into 60 distinct emission inventory source categories by county. The emission source categories are coded into ‘functional’ groups to determine which U.S. Forest Service management activities would have the potential greatest impact on ambient air quality and visibility, as measured by quantity of emissions of all criteria air pollutants.

## Cross-Walk from EPA 2014 NEI category to Air Quality DEIS Functional category

Table 1 below shows how the 60<sup>1</sup> emission source categories were aggregated to support Table 3’s functional categories: fire, natural, and other. These three categories were used because it delineates emissions from all planned and unplanned fire sources that could be significantly impacted by U.S. Forest Service management decisions, natural sources (soil and vegetation biogenics), and all other sources,

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<sup>1</sup> Please note that the three Nez Perce-Clearwater counties did not contain emissions inventories for all 60 categories, so only the categories that had emissions (tons/year) were included in Table 1.

including agricultural, industrial, fuel combustion, mobile sources, and residential emissions, that are not directly influenced by U.S. Forest Service management activities.

**Table 1. Sixty<sup>1</sup> emission source categories were aggregated to support functional categories: fire, natural, and other (Table 2).**

| User created “functional” category to support Air Quality | EPA defined Emission Inventory System source category per 2014 NEI |
|---|--|
| Fire  | Fires - Wildfires  |
|   | Fires - Prescribed Fires   |
| Natural   | Biogenics - Vegetation and Soil                                    |
| Other   | Agriculture - Crops & Livestock Dust                               |
|   | Agriculture - Fertilizer Application                               |
|   | Agriculture - Livestock Waste                                      |
|   | Bulk Gasoline Terminals  |
|   | Commercial Cooking   |
|   | Dust - Construction Dust   |
|   | Dust - Paved Road Dust   |
|   | Dust - Unpaved Road Dust   |
|   | Fires - Agricultural Field Burning                                 |
|   | Fuel Comb - Comm/Institutional - Biomass                           |
|   | Fuel Comb - Comm/Institutional - Coal                              |
|   | Fuel Comb - Comm/Institutional - Natural Gas                       |
|   | Fuel Comb - Comm/Institutional - Oil                               |
|   | Fuel Comb - Industrial Boilers, ICEs - Biomass                     |
|   | Fuel Comb - Industrial Boilers, ICEs - Coal                        |
|   | Fuel Comb - Industrial Boilers, ICEs - Natural Gas                 |
|   | Fuel Comb - Industrial Boilers, ICEs - Oil                         |
|   | Fuel Comb - Industrial Boilers, ICEs - Other                       |
|   | Fuel Comb - Residential - Natural Gas                              |
|   | Fuel Comb - Residential - Oil                                      |
|   | Fuel Comb - Residential - Wood                                     |
|   | Gas Stations   |
|   | Industrial Processes - Mining                                      |
|   | Industrial Processes - NEC   |
|   | Industrial Processes - Pulp & Paper                                |
|   | Industrial Processes - Storage and Transfer                        |
|   | Miscellaneous Non-Industrial NEC                                   |
|   | Mobile - Aircraft  |
|   | Mobile - Locomotives   |
|   | Mobile - Non-Road Equipment - Diesel                               |
| Mobile - Non-Road Equipment - Gasoline                    |  |
| Mobile - Non-Road Equipment - Other                       |  |
| Mobile - On-Road Diesel Heavy Duty Vehicles               |  |
| Mobile - On-Road Diesel Light Duty Vehicles               |  |

| User created "functional" category to support Air Quality | EPA defined Emission Inventory System source category per 2014 NEI |
|---|--|
|   | Mobile - On-Road non-Diesel Heavy Duty Vehicles                    |
|   | Mobile - On-Road non-Diesel Light Duty Vehicles                    |
|   | Solvent - Consumer & Commercial Solvent Use                        |
|   | Solvent - Degreasing   |
|   | Solvent - Dry Cleaning   |

## Results: Emissions by Functional Category

Quantity of emissions from the six criteria air pollutants was totaled by functional category to create Table 300 in the Final Environmental Impact Statement, which is reproduced below (Table 2). Note that fire does not include agricultural burns and that it is a larger source of criteria air pollutant emissions than all other categories combined.

**Table 2. CAP emissions by functional source in Idaho, Clearwater, and Shoshone counties**

| Source            | CAP Emissions (Tons) |
|-------------------|----------------------|
| Fire              | 550,930              |
| Natural           | 220,295              |
| All other sources | 40,891               |