Memorandum

DATE: June 26, 2024

TO: The Siskiyou County Board of Supervisors

FROM: Chelsea Murphy, CKM Environmental

SUBJECT: Klamath Dam Removal Project – Air Quality Sampling Results

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I. INTRODUCTION AND BACKGROUND

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for particulate matter (PM) and five other pollutants considered harmful to public health. The standard specifies the maximum concentrations and duration of PM present in outdoor air before potential health risks arise. The microscopic particle size gives the ability of the pollutant to enter the body's respiratory system. The larger particle sized PM 10 may be filtered out in the nose and throat, while the smaller PM 2.5 is able to bypass and penetrate deeper into the lungs, resulting in more serious health effects. Sources of PM include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, wind-blown dust from open lands, pollen and fragments of bacteria. To aid the public in easily identifying the air quality at a glance, the Air Quality Index (AQI) was developed. The AQI is a color-coded scale that ranges from 0 to 500, with higher numbers indicating greater pollution levels and health risks:

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

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In response to the Public's concern regarding dust pollution originating from the drawdown at Copco Reservoir, Siskiyou County (County) worked with the Siskiyou County Air Pollution Control District (District) to install PurpleAir sensors that measure airborne PM. These low-cost sensors were installed at three locations spaced out along the Copco community. The PurpleAir air quality sensors collect continuous data which is published online at map.purpleair.com using the AQI color coding. In addition, the County has an embedded map published on the County's Klamath Dam Decommissioning Project here: https://www.co.siskiyou.ca.us/naturalresources/page/klamath-dam-decommissioning-project.

While the PurpleAir sensors provide a continuous look at air quality, the strength and accuracy of these monitors is less stringent than other available monitors. Therefore, on loan from the California Air Resources Board (CARB) the District installed an EBAM-Plus air quality monitor at the Copco Community Center. This monitor provides the County with a stringent U.S. Environmental Protection Agency standard for monitoring outdoor air quality, specialty focused on larger PM 10 from windblown dust. PM concentration is measured in micrograms per cubic meter, or µg/m3. CARB set air-quality standards for PM 10 of 50 µg/m3 over a 24-hour period and an average of 20 µg/m3 annually. More restrictive than the EPA standard of 150µg/m3 over a 24-hour period and an average of 50 µg/m3 annually.

As with the PurpleAir sensors, the EBAM-Plus monitors have been collecting continuous air quality data since mid-May 2024. This memo outlines the sampling results, conclusions and next steps associated with the County's air monitoring efforts.

II. SAMPLING RESULTS

Since the installation of the PurpleAir sensors in March, air quality has remained relatively consistent, with most of the data indicating that the air quality around Copco Reservoir is adequate. Currently the data collected from the EBAM-Plus monitors spans from May 17th to June 18th, 2024. Figures 1 and 2 show the 24-hour average of PM_{10} concentrations. This is a small data sample, however, within this window the 24-hour average standard set by CARB has not been exceeded.

III. CONCLUSIONS & NEXT STEPS

The District and County will continue to monitor the air, gather data and be mindful of public health concerns in and around the changing situation of the KRRC dam removal project. We will continue to update the public via the County's Klamath Dam Removal website (PurpleAir sensors) and through memos such as this.

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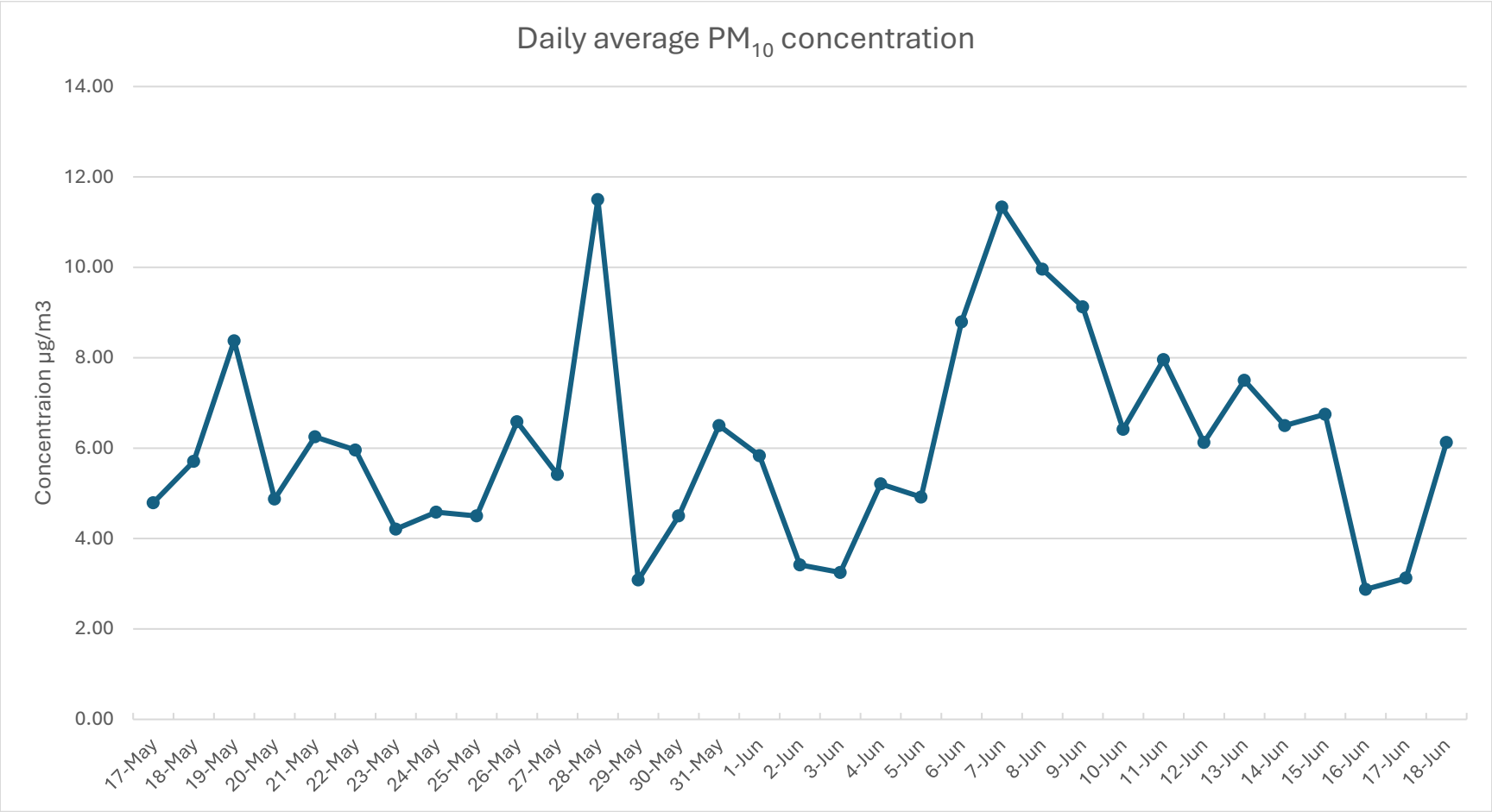

Figure 1. EBAM-Plus Air Quality Monitoring, Particulate Matter Average Daily Concentration

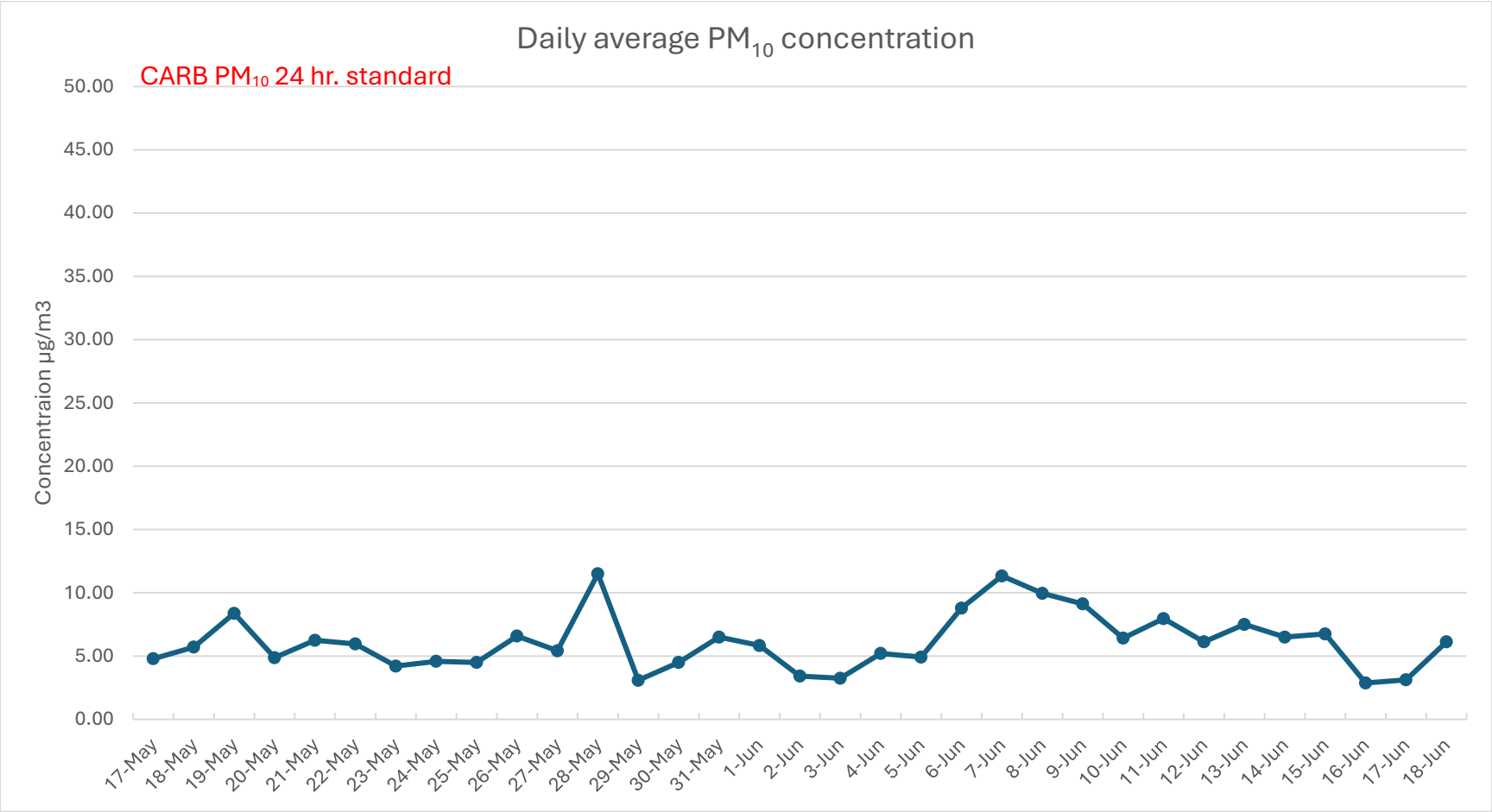

Figure 2. EBAM-Plus Air Quality Monitoring, Particulate Matter Average Daily Concentration Compared to CARB Standard