March 31, 2021

Senate Committee on Energy and Environment
900 Court St. NE
Salem, OR 97301

Re: Friends of the Columbia Gorge's comments supporting SB 583

Dear Chair Beyer and members of the committee:

Friends of the Columbia Gorge ("Friends") submits the following comments in support of SB 583. Thank you for the opportunity to testify. Friends is a non-profit organization with approximately 6,000 members. Friends is dedicated to protecting and enhancing the scenic, cultural, recreation, and natural resources of the Columbia River Gorge National Scenic Area ("National Scenic Area" or "Gorge"). Friends' membership lives, works, and plays in the Columbia River Gorge and is adversely affected by the direct, indirect, and cumulative impacts caused by emissions from industrial dairies that affect the National Scenic Area.

Air quality in the National Scenic Area is already severely impaired

The Columbia River Gorge National Scenic Area is already severely impaired by air pollution, especially nitrogen oxides (NOx) and particulate pollution. A 2005 joint study by the U.S. Forest Service and National Park Service studied twelve federally managed areas around the West and found that the Columbia River Gorge National Scenic Area and Sequoia National Park had by far the worst "annual standard visual range[s]" of the twelve areas.[1] Similarly, a 2000 Forest Service study of air quality monitoring data from 39 federally managed "visibility protected" areas in the West found that the National Scenic Area has "the highest levels of haze" and "the sixth worst visibility pollution of these areas."[2] Gorge air quality has been monitored for the last twenty years. The Forest Service has documented that visibility impairment occurs on at least 95% of the days that have been monitored.[3]

Deposition of pollutants also has profound negative impacts on ecosystems. Studies demonstrate that in the Western United States, some aquatic and terrestrial plant and microbial communities

[1] Mark Fenn, USDA Forest Service et al., *Why federal land managers in the Northwest are concerned about nitrogen emissions*, at 10 (Dec. 2004).

[2] Arthur Carroll, USDA Forest Service, Letter to Columbia River Gorge Commission, at 3 & attach. 3 (Feb. 7, 2000).

[3] Robert Bachman, USDA Forest Service, *A summary of recent information from several sources indicating significant increases in nitrogen in the form of ammonia and ammonium nitrate in the Eastern Columbia River Gorge and the Columbia Basin*, at 2 (June 24, 2005).

are significantly altered by nitrogen deposition.[4] Sulfur and nitrogen concentrations in lichen tissue found in the Gorge are comparable to those found in lichen tissue sampled in large urban areas. Nitrogen deposition rates in the Gorge are comparable to the most polluted areas in the United States.

Particulate matter pollution also threatens human health and welfare. In fact, when reviewing the National Ambient Air Quality Standards for PM2.5, the EPA found that there is no level of particulate matter pollution at which there are no human health effects. According to the EPA, fine particulate matter pollution causes a variety of adverse health effects, including premature death, heart attacks, strokes, birth defects, and asthma attacks.[5] Even low levels of PM2.5 can cause low birth weights, damage lung function, and increase risks of heart attack and premature death. Studies reviewed by EPA revealed a linear or almost linear relationship between diseases like cancer and the amount of fine particulate matter in the ambient air.[6] Consequently, particulate matter contamination has adverse health effects at any concentration.

In addition, sulfur dioxide emissions contribute to acid rain. Acid rain threatens both ecosystems and Native American rock images.

More mega-dairy CAFOs will further degrade the air quality in the Gorge

Mega-dairies have enormous manure lagoons where the waste anaerobically rots and pollutants are released into the air. Livestock production is a leading source of methane gas emissions in the United States and manure management is the fastest growing source of methane emissions. This is because factory farms with their massive polluting manure lagoons are rapidly replacing family farms that don't have manure lagoons. Other pollutants emitted by large dairy CAFOs include: sulfur dioxide, volatile organic compounds, nitrogen oxides, particulate matter, and various hazardous air pollutants. Since thresholds for significant adverse impacts have already been exceeded for particulate matter and nitrogen deposition, any significant source of pollutants will likely contribute to cumulative significant adverse impacts to Gorge resources. A NOAA study concluded that "[v]isibility improvement can only come as a result of emission reductions. The only emission reductions that can be made are those that are the result of manmade activities."[7] **Even when the coal-fired power plant in Boardman was shut down for maintenance, air quality issues persisted in the Gorge and "NH3 emissions from the nearby dairy industry [we]re likely a contributing factor."[8] Simply put, adding more mega-dairies without taking into account emissions from the new facilities will make matters worse. That**

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[4] *See* Mark E. Fenn, et al, Ecological Effects of Nitrogen Deposition in the Western United States, BioScience Vol. 53:4, Apr. 2003, available at http://www.bioone.org/doi/abs/

[5] 71 Fed. Reg. 2620, 2627–36 (Jan. 17, 2006).

[6] *Id*.

[7] *Columbia River Gorge Air Quality Study Science Summary Report*, National Oceanic and Atmospheric Administration, p. 109 (February 8, 2008).

[8] *Now you see it, now you don't: Impact of temporary closures of a coal-fired power plant on air quality in the Columbia River Gorge National Scenic Area*, Atmospheric Chemistry and Physics, Jaffe, D.A., p. 8004, (October 23, 2009).

is why it is so important to pass SB 583 and press the pause button on more mega-dairies until air quality can be taken into account.

Conclusion

Nitrogen oxides are a major component of haze pollution that effects the Columbia River Gorge National Scenic Area. Sulfur dioxide also contributes to acid rain, which threatens ecosystems and Native American rock images. PM2.5 is hazardous to human health and is already a problem in the Gorge. **Friends asks that you pass SB 583 and pause the approval of new mega-dairies until air quality measures can be put into effect.**

Sincerely,

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