



Colorado Air Quality Control Commission
Rocky Mountain National Park (RMNP) Resolution

BACKGROUND

1. Rocky Mountain National Park ("Park") is a scenic, historic, recreational, and ecological treasure located within the State of Colorado.
2. Data collected since the early 1980s and findings published in dozens of peer reviewed research articles document changes to the Park's fragile ecosystem resulting from nitrogen deposition on the east side of the Continental Divide. These include:
 - a) Changes in the type and abundance of aquatic plant species;
 - b) Elevated levels of nitrate in surface waters;
 - c) Elevated levels of nitrogen in spruce tree chemistry;
 - d) Long-term accumulation of nitrogen in forest soils; and
 - e) A shift in alpine tundra plant communities favoring sedges and grasses over the natural wildflower flora.
3. Measurements and modeling analyses illustrate that anthropogenic NO_x (nitrogen oxides) and ammonia emissions from industrial, mobile, and agricultural sources in Colorado are significant contributors to wet nitrogen deposition in RMNP, particularly during the spring and fall months.
4. The Colorado Air Pollution Control Act declares that it is state policy to "...achieve the maximum practical degree of air purity in every portion of the state...." The Park's enabling legislation and other federal statutes mandate that natural resources at the Park are to remain unimpaired for future generations.
5. In 2004, the Colorado Department of Public Health and Environment, the U.S. Environmental Protection Agency and the National Park Service formed the Rocky Mountain National Park Initiative ("Initiative") to study and promote action to address nitrogen deposition issues facing the Park.
6. In 2006, the Park's Superintendent established a resource management goal for wet nitrogen deposition at the high alpine monitoring site of Loch Vale of 1.5 kg N/ha/yr. The National Park Service indicates that this is the rate of nitrogen deposition below which ecosystem changes are unlikely to occur. At the time, the actual wet deposition level was estimated to be 3.1 kg N/ha/yr.

7. Through a Commission subcommittee, the Initiative Agencies worked collaboratively to educate and inform interested stakeholder groups about the research to date, the scientific conclusions and ecosystem impacts and the suggested approach to address and resolve issues associated with nitrogen deposition in the Park while encouraging stakeholder participation.
8. The Rocky Mountain National Park Nitrogen Deposition Reduction Plan ("Plan") was produced in 2007 as a result of this collaborative effort. The Plan did not impose enforceable requirements at that time, but did contemplate that the Commission might be presented with future proposals to adopt enforceable requirements to reduce nitrogen deposition in the Park.
9. The Plan established a goal of reducing wet deposition at Loch Vale to 1.5 kg N/ha/yr by 2032, with interim goals of reducing deposition to 2.7 kg N/ha/yr by 2012 and 2.4 kg N/ha/yr by 2017.
10. In December 2009, the Initiative Agencies completed a Contingency Plan to be implemented in the event that regulatory emission reduction programs already adopted, and other voluntary programs relied upon in the Nitrogen Deposition Reduction Plan were not sufficient to achieve the Plan's milestones. Following review and a public hearing, the Contingency Plan was endorsed by the Commission in 2010.
11. The Initiative Agencies and their partners have sponsored, conducted, and synthesized valuable research into ecological impacts, emissions, chemistry and transport processes and emissions mitigation measures, and have sustained the crucial monitoring network that tracks deposition loadings at RMNP.
12. The Initiative Agencies have also undertaken important initiatives to reduce emissions, including through projects within the Park. The Initiative's Agriculture Subcommittee has conducted outreach to agricultural producers, investigated best management practices, and partnered with Colorado State University scientists on an early warning system to encourage temporary shifts in operations to reduce ammonia emissions during upslope flow events.
13. The Initiative's May 2019 Milestone Report concludes that the 2017 deposition level was in the range of 3.1 - 3.3 kg N/ha/yr. Thus, while Initiative efforts appear to have been successful in stabilizing nitrogen deposition, the 2017 interim reduction milestone of 2.4 kg N/ha/yr has not been met.

COMMISSIONERS' POLICY STATEMENT

1. The Rocky Mountain National Park Initiative remains an important priority. It represents a valuable collaborative effort by the Initiative Agencies for the immediate and long-term benefit of the Park.
2. Proactive voluntary approaches to address environmental issues in a collaborative fashion can produce innovative, durable solutions that can be implemented with a broad range of support.
3. It is appropriate to recognize the nitrogen deposition reduction co-benefits of planned, yet to be implemented, and future programs and other voluntary efforts such as those identified in the 2017 Milestone report.
4. Because the unique and protected alpine ecosystems in RMNP are currently being degraded by excess nitrogen pollution and interim goals have not been met, further action is needed.

COMMISSIONERS' RESOLUTION

1. Recognizing the commonalities in emissions and atmospheric processes affecting nitrogen deposition, regional haze, and ozone, the Commission will actively include consideration of nitrogen deposition reduction goals in upcoming rulemakings for regional haze, ozone, and Senate Bill 19-181.
2. The Commission endorses and encourages the Initiative Agencies and the Agriculture Subcommittee in their efforts to strengthen early warning system and best management practices activities, expand outreach, and to identify and encourage other incentive programs to support measures that reduce agricultural ammonia emissions.
3. The Commission will hold public briefings, at least annually until the Commission directs otherwise, to understand progress in reducing nitrogen deposition at Rocky Mountain National Park, with the aim of enhancing public participation, and assessing whether additional efforts are needed to support the Initiative.