October 3, 2009
The Honorable Governor Bill Ritter
136 State Capitol
Denver, CO 80203-1792

Re: Colorado Scientists' Comments on July 28, 2009 version of proposed Colorado Roadless Rule
(sent via Roadless.Comments@state.co.us)

As scientists who reside and work in Colorado, we are writing to urge you not to move forward with your state specific roadless area proposal to manage the state's national forest roadless areas. The national forest roadless areas within Colorado are deserving of the full protections currently afforded to them under the 2001 Roadless Area Conservation Rule. The state's current draft rule[1,2] contains management direction allowing a variety of activities that would be harmful to these forest ecosystems and would collectively undermine the intent of the 2001 rule to provide long lasting protections for watersheds, biological diversity, critical habitat for threatenend species, and dispersed recreation in inventoried roadless areas within the National Forest System[3]. Additionally, we are enclosing a letter signed by scientists from around the nation urging President Obama to apply the 2001 roadless rule consistently and in its entirety as this rule making to address local issues is clearly unwarranted.

Colorado's 363 inventoried roadless areas, totaling some 4.43 million acres[2], are an essential component to the state's intact ecosystems and the quality of life Coloradoans enjoy. These areas provide a vital supply of drinking water to millions of residents while helping to meet the irrigation demands of farmers and ranchers. With the rapid pace of development putting increased pressure on the national forest system, particularly in the West, and the emergence of global climate change, roadless watersheds take on even greater importance as a source of clean water. Anticipated tripling of state water consumption levels by 2050[4] underscores the need to fully protect the state's roadless areas for at least this purpose, particularly as climate change potentially triggers more frequent and lasting droughts[5].

The state's national forest roadless areas also are vital for at-risk species such as large carnivores that depend on large tracts of intact ecosystems[6], trout that depend on cool water, and big game species that depend on unroaded areas for habitat security[7]. As an example, the Currant Creek portion of the Priest Mountain Roadless Area in the Delta area is important to downstream users as a source of drinking and irrigation water, and is considered by the Colorado Division of Wildlife as providing quality elk, deer, and bear hunting opportunities[2]. Under the state's proposal, a minimum of 29,000 acres of this area would be subject to coal mine methane removal and construction of accompanying infrastructure and methane well pads that would permanently change its unique features while releasing greenhouse gas pollutants.

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[1]Colorado Roadless Rule – Final Language as of July 28, 2009 16 U.S.C. 472,529, 551, 1608, 1613; 23 U.S.C 201, 205.
[2]USDA Forest Service. 2008. Rule making for Colorado Roadless Areas Draft Environmental Impact Statement. Washington, D.C.
[3]USDA Forest Service. 2000. Forest Service Roadless Area Conservation Draft Environmental Impact Statement Volume 1. Washington, D.C.
[4]Colorado Water Conservation Board, 2009. State of Colorado 2050 municipal and industrial use water use projects. June 2009. Draft report.
[5]Udall, B. and G. Bates. 2007. Climatic and hydrological trends in the western U.S.: a review of recent peer-reviewed literature. Feature article from *Intermountain West Climate Summary*, January 2007.
[6]Trombulak, S. and C. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. *Conservation Biology* 14:18-30. USDA Forest Service. 2000, ibid.
[7]Petersen, D. 2005. Where the wildlands are: Colorado. Trout Unlimited. Durango, CO.

National forest roadless areas under the state's proposal would be subjected to numerous exceptions that either do not appear in the 2001 roadless rule or are weaker than the national rule, thereby providing fewer protections to roadless areas than any state in the nation. In sum, proposed land use activities will fragment roadless areas by greatly expanding logging and road building; allowing roughly 100 new oil and gas leases, many with new roads, pipelines, and other industrial infrastructure to go forward in some of Colorado's best hunting and fishing and undeveloped backcountry areas; coal development in fragile areas; ski area expansions; water conveyance structures; and other developments affecting at least 246,000 acres[8] of inventoried roadless areas by removing them from the national inventory or degrading them through such cumulative impacts. The proposed rule lacks mandatory requirements to preserve roadless area characteristics in the face of such activities[9] and circumvents the National Environmental Policy Act.

As noted in the national scientist letter, the presence and human use of roads, even the use of *long-term temporary and temporary roads* as proposed– can impact ecosystems in many ways. For instance, roads may alter the spread, frequency, and intensity of disturbances on the landscape[10], including the probability of human-caused fire ignitions[11]. In Colorado, road building has been a primary agent of landscape change[12], resulting in declines to elk habitat[13], water quality[14], and fisheries[5] among other impacts. Road building in roadless areas is especially risky in Colorado, as the state leads the nation in landslide susceptible roadless areas[2]. Many of these impacts are not effectively remedied, as assumed by the Forest Service[2], as they are likely to interact with other proposed changes (pipelines, transmission lines, water conveyance and infrastructure, oil and gas platforms, etc.) to compound disturbances affecting large portions of roadless areas and their surroundings. Notably, approximately three-fourths of Colorado roadless areas are within 1 mile of nearest roads[15] where spill over effects from roads and associated developments may impact adjacent roadless areas[16], particularly when combined with the numerous additional impacts proposed by the state.

Some of the changes proposed by the state are due to concerns about the probability of wildland fire and insect damage to forests; however, road building and tree cutting will likely have minimal effects on fire spread and intensity, which in Colorado is primarily driven by weather rather

[8]This difference was arrived at by comparing 4.43 million acres of inventoried roadless areas under the 2001 rule vs. the state's July 28, 2009 proposal of 4.184 million acres but is likely to be conservative due to cumulative impacts.
[9]Roadless characteristics defined in §294.31 are used as guidance and context for decisions about the management of Colorado Roadless Areas. However, road construction and reconstruction as allowed under §293.33, and tree-cutting as allowed under §293.32, shall not be prohibited within Colorado Roadless Areas solely because there may be adverse effects to some roadless characteristics with project implementation (July 28, 2009 proposed rule).
[10] Miller, J.M., L. A. Joyce, R L. Knight and R. M. King. 1996. Forest roads and landscape structure in the southern Rockies. *Landscape Ecology* 1 (2):115-127.
[11]DellaSala, D.A., and E. Frost. 2001. An ecologically based strategy for fire and fuels management in National Forest roadless areas. *Fire Management Today* 61(2):12-23.
[12]Allen, C.D., J.L. Betancourt, and T. W. Swetnam. 1997. Landscape changes in the southwestern United States: techniques, long-term data sets, and trends (http://biology.usgs.gov/luhna/chap9.html). Southern Rockies Ecosystem Project. 2004. State of the Southern Rockies Ecoregion. Colorado Mountain Club: Golden, Colorado.
[13]Lyon, L.J. 1983. Road density models describing habitat effectiveness for elk. *Journal of Forestry* 81: 592-595. Rowland, M. M., M. J. Wisdom, B. K. Johnson, and M. A. Penninger. 2004. Effects of Roads on Elk: Implications for Management in Forested Ecosystems. *Transactions of the North American Wildlife and Natural Resource Conference* 69: in press.
[14]Anderson, D.C. 2007. Road impacts on the Baca Wildlife Refuge, Colorado with emphasis on effects to surface- and shallow-ground water hydrology- a literature review. USGS Open-File Rept. 2007-1052.
[15]http://www.roadless.net/maps/roads.htm
[16]Forman, R.T.T. 2000. Estimate of the area affected ecologically by the road system in the United States. *Conservation Biology* 14:31-35.

than fuels[17]. This is particularly the case for lodgepole pine and spruce-fir forests, the dominant forest types in the majority of the state's roadless areas, as these forests characteristically burn severely and infrequently[2,17]. Thinning and post-fire logging[18] are not likely to alter fire extent or severity in these forests under extreme drought conditions, an increasingly likely scenario in Colorado. Further, as noted, road building increases the likelihood of human-caused fire ignitions. For all these reasons, wildfire risks are best dealt with by focusing treatments on homeowner defensible space and already roaded areas[17]. Under the state's proposal; however, tree cutting and road building can take place anywhere in a roadless area where the Regional Forester deems there is "substantial risk" to municipal water supply systems from insects, disease, and wildfire hazards. Logging would retain large trees to the "maximum extent practical," which is a significant departure from the 2001 rule that emphasized removal of primarily small trees. Additional tree cutting can take place within a Community Protection Zone, extending up to 1 ½ miles from an affected community, potentially impacting large portions of inventoried roadless areas. The state's proposal therefore would weaken provisions for cutting trees, introduce new measures, including Community Protection Zones, with far reaching effects that in their entirety would impact nearly 10 times more roadless area acreage than under the 2001 rule[19]. In addition, there is no requirement, as in the 2001 rule, to maintain roadless area characteristics in the face of such activities, which is considered optional rather than mandatory as in the 2001 rule[20]. These extreme measures are not necessary, as the 2001 rule already provides sufficient local discretion to address these concerns within the broader context of protecting roadless areas[21].

The state also expressed concern that outbreaks of bark beetles, which result in dead conifer needles, are increasing the probability of extreme fire behavior and therefore tree cutting is needed to "*prevent or suppress an insect or disease epidemic*"[1]. However, recent studies indicate that the probability of fire increases only in forest stands where dead needles are still present on the trees; needles drop relatively soon after dying and logging is not likely to minimize this short-lived risk[17]. In general, trees in roaded areas are nearly four times more susceptible to attack by insects and pathogens than those in roadless areas[3], due primarily to homogenization of stands and landscapes by associated logging that may reduce populations of natural enemies of destructive insects[11]. As noted, the 2001 rule provides ample measures for addressing such contingencies while safeguarding roadless areas[21].

In closing, Colorado's roadless areas are a vital part of the state's natural inheritance and outdoor recreation economy that will only become even more important to protect as the state and nation deal increasingly with the social, economic, and ecological disruptions of climate change, as

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[17]Romme, W.H., J. Clement, J. Hicke, D. Kulakowski, L.H. MacDonald, T.L. Schoennagel, and T.T. Veblen. 2009. Recent forest insect outbreaks and fire risks in Colorado forests: a brief synthesis of relevant research. Available at Colorado State University, Ft. Collins. June 3, 2009 letter from W. Romme to M. King, Colorado Dept. Natural Resources. Also see Bond, M. L., D. E. Lee, C. M. Bradley, and C. T. Hanson. 2009. Influence of pre-fire tree mortality on fire severity in conifer forests of the San Bernardino Mountains, California. *The Open Forest Science Journal* 2:41-47. Black S.H. 2005. Logging to control insects: The science and myths behind managing forest insect "pests." A synthesis of independently reviewed research. The Xerces Society for Invertebrate Conservation. Portland.

[18]Kulakowski, D., and T.T. Veblen. 2007. Effect of prior disturbances on the extent and severity of a 2002 wildfire in Colorado subalpine forests. *Ecology* 88:759-69.

[19]Stewardship logging can occur on 12,000 acres under the 2001 rule vs. at least 114,000 acres of relatively unrestricted logging in the state's proposal (see USDA Forest Service DEIS 2008 and state proposal noted in footnotes 1and 2).

[20]Roadless characteristics defined in §294.31 are used as guidance and context for decisions about the management of Colorado Roadless Areas. However, road construction and reconstruction as allowed under §293.33, and tree-cutting as allowed under §293.32, shall not be prohibited within Colorado Roadless Areas solely because there may be adverse effects to some roadless characteristics with project implementation.

[21]USDA Forest Service. 2000. Roadless Area Conservation Final Environmental Impact Statement Fuel Management and Fire Suppression Specialists' Report. Washington, D.C.

well as the rapid pace of development that is putting increased pressure on the national forest system. The 2001 roadless rule continues much needed protections of Colorado's roadless areas, while allowing sufficient flexibility to address local public health and safety, fire, and undesirable insects. Ironically, by introducing additional and controversial measures less protective than the 2001 roadless rule, the state runs the risk of *reducing* (not increasing) management flexibility that potentially causes irreparable harm to roadless areas. Thus, management direction in the proposed Colorado rule in general runs contrary to best available science and the more protective and robust measures of the 2001 roadless rule that set a national standard for safeguarding the nation's critical lands and waters. When viewed in this context, Colorado's untrammeled roadless areas contribute uniquely to the state's ecological and economic well being and the nation as a whole. Implementing and enforcing the 2001 Roadless Area Conservation Rule is the best way to ensure these wild areas continue to sustain the many values and ecosystem services they provide.

Sincerely, *

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