

20. Roads					
ISSUE 20.1	Roads may impact GrSG populations by direct mortality, behavioral changes, spread of exotic plants, fragmentation of habitat, and by providing additional human access to formerly remote areas.				
OBJECTIVE 20.1.1	Minimize the potential for adverse impact of roads on GrSG and their habitat (see CCP "GrSG Disturbance Guidelines", Appendix B).				
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
20.1.1.1	Identify, categorize (e.g., 2-track, gravel, unpaved, paved), and map roads in GrSG range. Maintain a current GIS roads datalayer.	BLM, County Governments	Ongoing	Moffat: all county roads mapped and categorized. Maps updated. Grand: GIS system used to map all county roads. Roads are categorized by ownership, surface type, maintenance schedule, and useage allowances. Public road hearings held annually. January each year, these maps are updated and signed by the BOCC. Jackson: All country roads mapped and categorized. Roads GIS data layer updated regularly.	
20.1.1.2	For placement of new roads, GrSG seasonal habitats should be mapped and avoided whenever possible. If seasonal habitats are not yet mapped, construction should be avoided within the buffers described in the CCP "GrSG Disturbance Guidelines" (Appendix B).	BLM, CPW, County Governments, Industry, LWGs, NPS, Private Landowners, SLB, USFS	During road planning phase	CPW: General - CPW has regulatory authority over road building, siting and operations only on State Wildlife Areas. CPW routinely provides comments to land management agencies regarding the location of and methods for avoiding key GrSG habitats. PPR - CPW incorporates avoidance of GrSG habitat in WMPs with energy companies where possible. NP - CPW is in the process of developing seasonal habitat models for NP to assist with conservation planning. NESR - CPW makes recommendations to minimize impacts to GrSG habitat.	
20.1.1.3	Timing of road building and road maintenance activities should be modified according to the GrSG seasonal habitat in the area and the timing guidelines provided in Appendix B.	BLM, CPW, County Governments, Industry, LWGs, Private Landowners, SLB, USFS	During road planning phase	CPW: General - CPW routinely recommends timing limitations that avoid lekking and nesting periods (March-June) for road construction and maintenance (and other surface disturbing activities). PPR - Conduct of work outside key seasonal periods is built into WMPs where possible. NP - When provided with the opportunity, CPW will consult and make recommendations on seasonal timing when applicable. NESR - CPW makes recommendations to minimize impacts to GrSG habitat.	
20.1.1.4	Where opportunities arise, manage existing roads to minimize disturbance to leks or other seasonal habitats, particularly breeding habitat. Employ seasonal closures, permanent closures, rerouting of existing roads, or other measures, as deemed locally appropriate.	BLM, CPW, County Governments, Industry, LWGs, Private Landowners, SLB, USFS	Annually	CPW: PPR - Some WMPs employ this strategy.	
20.1.1.5	If new local or unpaved roads are constructed within GrSG seasonal habitats, encourage appropriate governing authorities to restrict speed limits as specified by the CCP "GrSG Disturbance Guidelines", Appendix B).	BLM, CPW, County Governments, Industry, LWGs, NPS, Private Landowners, SLB, USFS	During road planning phase	CPW: General - CPW's BMPs for oil and gas development recommend speed limits on oil and gas roads in GrSG habitat. PPR - WMPs generally establish speed limits on service roads in GrSG habitat. NP - BLM will restrict speed limits when applicable. NESR - CPW makes recommendations to minimize impacts to GrSG habitat.	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
20.1.1.6	New roads should not be constructed within 0.6 miles of leks (see CCP "GrSG Disturbance Guidelines", Appendix B). If this is impractical, roads should be placed to avoid line-of-sight between strutting males and road/associated traffic. Lek data are considered sensitive information by CPW. Limit data distribution to the extent necessary for effective management.	BLM, CPW, County	During road planning phase	CPW: General - CPW routinely recommends that new roads (and other surface disturbing activities) not be built within 0.6 miles of GrSG leks. CPW BMPs for oil and gas development and the COGCC rules contain this recommendation. BLM RMPs are adding this stipulation during revisions. PPR - WMPs utilizes this strategy. NP - When provided with the opportunity, CPW will consult and make recommendations on new road placement. CPW is in the process of developing seasonal habitat models for NP to assist with conservation planning. NESR - CPW makes recommendations to minimize impacts to GrSG habitat.	
20.1.1.7	On federal land, consider GrSG habitat when determining allocation designations for user-created routes. This should be done when developing activity or LUP level Travel Management Plans.	Governments, NPS, SLB, USFS	During travel mgmt. plan phase	CPW: General - CPW staff provides comments to BLM for RMP and other federal EIS development, including travel management planning. All RMPs in CO GrSG habitat are either recently revised or are currently in revision.	
20.1.1.8	If habitat disturbance that will require habitat restoration occurs in conjunction with building, maintaining, or reclaiming roads, the potential vegetation community needs to be identified (Winward 2004) and a diverse seed mixture of native shrubs, grasses, and forbs should be used (see CCP Appendix D, "Recommendations Regarding Plant Species for Use in GrSG Habitat Management and Restoration", Monsen 2005, and "Habitat Enhancement" strategy, pg. 349).	BLM, CDOT, CPW, County Governments, Industry, NPS, Private Landowners, SLB, USFS	Immediately following disturbance	CPW: General - CPW routinely makes this recommendation to land management agencies with regulatory authority in this area. CPW BMPs for oil and gas development (including roads) contain similar recommendations for revegetation and reclamation. PPR - Reclamation and revegetation of facilities (including roads) is specified in WMPs.	CPW: Researcher D. Johnston is studying methods to improve revegetation and reclamation success.
20.1.1.9	Prevent and control the spread of noxious and invasive weeds in disturbed areas associated with roads (see "Weeds" strategy, pg. 425).	BLM, CDOT, CPW, County Governments, SLB, USFS	Ongoing	CPW: General - CPW BMPs for oil and gas development (including roads) contain weed management recommendations. MP - Support is given for local county to spray road side weeds. PPR - WMP's include weed management strategies. CPW Researcher, D. Johnston, is studying ways to limit the establishment of weeds (particularly cheatgrass) in disturbed areas. NP - At this point, invasive weeds are not a problem in NP.	
20.1.1.10	Evaluate the effects of road placement and traffic levels on GrSG and GrSG habitat. [See Research Strategies 21.1.2.3 and 21.2.1.2]	CPW, Industry, LWGs, Universities	Begin by 2015		