

10. Housing Development					
Issue 10.1		GrSG permanent habitat loss			
Objective 10.1.1		Short-term strategies, in occupied habitats of 3 GrSG populations			
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.1.1	Using GIS, identify occupied and seasonally important GrSG habitats and leks that are at highest risk of development (priority areas).	CPW	2008; update every 2 years	<p>CPW Research: See 3.2.3.1 above. Seasonal habitat maps can be overlaid with layers of housing development risk to identify such areas, but this has not been done yet.</p> <p>CPW: PPR - Telemetry data leading to vegetation modeling has been conducted by CPW Researchers B. Walker and T. Apa and has subsequently been used to identify new leks as well as refine seasonal maps for GrSG in the PPR population.</p> <p>NP - Little housing development is occurring in NP. However, an important lek complex area was subdivided and houses placed in breeding habitat. A house was built almost directly on a lek site. Counts on the lek have decreased by approximately 50 -70% since the early 2000s on this lek.</p> <p>NESR - Not done at the local level in GIS; however, CPW monitors proposed housing developments.</p>	CPW: General - The highest value GRSG habitats have been identified using GIS tools that encompass habitat conditions and breeding bird density. Local knowledge is then applied in determining which areas of highest value GRSG habitat are at risk of development.
10.1.1.2	Identify areas, within priority areas, for potential conservation actions to benefit GrSG (e.g., management plans, conservation easements, leases, Farm Bill programs, land exchanges, acquisition), and share this information with interested stakeholders.	CPW	2008 and ongoing	<p>CPW: cooperates with TNC, NRCS, and other Land Trusts to identify and protect important GrSG habitat through conservation easements. CPW has also written letters of support for conservation easements.</p> <p>MP - Key areas have been identified and shared with local land trust and NRCS. Effective because Middle Park Land Trust has protected some of these habitats and NRCS uses this information to encourage private land protections and better land management. An example of on-going efforts includes two properties totaling over 3,300 acres that were submitted for protection to CPW Habitat Protection Program in 2012. Also, CPW closed on a 1,120 acre easement (Gunsight Pass) in GrSG habitat in 2012 in Grand County.</p> <p>PPR - Research from CPW Researcher B. Walker has generated maps of suitable habitat that will be available to stakeholders to help guide future actions that benefit GrSG.</p> <p>NESR - CPW funded a 2,050 acre Conservation Easement that includes extremely valuable GrSG habitat.</p>	CPW: General - CPW consistently works with landowners and conservation partners to implement conservation actions within priority areas as opportunities arise. CPW has completed a number of conservation easements and/or management plans in priority GrSG habitat since 2004 (see attached conservation easement table).

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.1.3	Incorporate benefits to sage-grouse into existing easements and management plans, as opportunities arise.	CPW	2008 and ongoing	<p>CPW: General - All recent conservation easements held by or funded (in whole or part) by CPW that include GrSG habitat include language in both the CE and associated Management Plan to protect and/or enhance GrSG habitat. CPW incorporates the newest and best available information in CPW easement management plans.</p> <p>PPR - Wildlife Mitigation Plans for 4 energy companies have been signed that incorporate similar ideas.</p> <p>MP - The Skylark easement was an existing easement obtained in the 1980's that was not created for GrSG but is now managed for the species. CPW in MP has protected over 7,700 acres in easements for GrSG and added approximately 950 acres of GrSG range to the existing Hot Sulphur SWA.</p> <p>NESR - CPW will be updating an existing management plan for a CE on extremely important GrSG habitat. CPW annually monitors the CE in NESR GrSG habitat and works with the landowner to improve GrSG habitat.</p>	<p>CPW: General - All recent conservation easements held by or funded (in whole or part) by CPW that include GRSG habitat include language in both the CE and associated Management Plan to protect and/or enhance GRSG habitat. CPW incorporates the newest best available information in CPW easement management plans.</p>
10.1.1.4	Identify and pursue funding sources for protection of identified GrSG areas (identified in strategy 10.1.1.2), and encourage collaborative conservation funding opportunities.	CPW	2008 and ongoing	<p>CPW: General - CPW has pursued regular funding for conservation easements and other land protection strategies through the CPW Habitat Protection Program. NRCS, USFWS Section 6, The Nature Conservancy, and local land trusts have been approached to combine funding possibilities to obtain partner easement funding. CPW has also written letters of support for other conservation easements. CPW writes letters of support for conservation easements when opportunities arise.</p> <p>See Appendix B: Summary of Expenditures on GrSG in Colorado 2006-2012</p>	<p>CPW: General - Funding for CPW's conservation easement program has ranged from \$10 million to \$15 million annually since 2005. Protection of GrSG habitat has been a program target in each of these years. NRCS, USFWS Section 6, The Nature Conservancy, and local land trusts have been approached to combine funding possibilities to obtain partner easement funding.</p> <p>NWCO and MWR - CPW has partnered with land trusts, NRCS, and other entities to protect approximately 32,000 acres (~15,000 acres in Moffat and Rio Blanco counties, ~17,000 acres total in Routt County) acres of GrSG habitat in NWCO and 14,300 acres in MWR (~30% of overall range for this population) through perpetual Conservation Easements in the last 8 years.</p> <p>MP - CPW has protected over 7,700 acres in easements for GrSG and added approximately 950 acres of GrSG range to the existing Hot Sulphur SWA.</p> <p>NP - CPW funded a 2,240 acre conservation easement in NP that closed in December 2011. Another 1,750 acre conservation easement has been approved for CPW funding and is expected to close in early 2013.</p> <p>NESR - CPW funded a 2,050 acre CE that includes extremely valuable GrSG habitat.</p>

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.1.5	Within priority GrSG areas (strategy 10.1.1.1), set specific goals for the amount of habitat to protect from housing development.	CPW, LWGs	2010; update every 3 years	<p>CPW: CPW is in the process of assessing the acreage needed to conserve current populations of GrSG in each population in Colorado (expected completion in spring 2013). This assessment will factor in the need to private land conservation (including conservation easements and other land protection strategies) in the context of public lands in each population. Population specific goals have not yet been established.</p> <p>NP - Currently, housing development is not occurring at a rapid pace. The majority of land is still in large ranches. However, there has been some subdivision that has impacted an important GrSG lek complex and breeding habitat.</p> <p>PPR - Housing development is not a major concern.</p>	
10.1.1.6	Pursue opportunities to protect identified GrSG areas (strategy 10.1.1.2) with interested landowners (e.g., CCAAs, land exchanges and acquisition, and management plans and easements that incorporate benefits to sage-grouse).	CPW, LWGs	2010 and ongoing	<p>CPW: General - CPW has prioritized the protection of GrSG habitat in its annual conservation easement Request for Proposals (Colorado Wildlife Habitat Protection Program). Each conservation easement acquired under this program includes a management plan to conserve/manage GrSG habitat on the property in perpetuity. CPW has also pursued GrSG habitat management commitments in WMPs with energy companies. CPW has not entered into any CCAAs in GrSG habitat. CPW has also written letters of support for other conservation easements.</p> <p>MP -CPW submitted 2 properties totaling 3,300 acres for protection in 2012 application process. The MP LWG supports protecting lands with easements or fee title acquisition and cooperates with agencies and land trusts to identify properties.</p> <p>NP - The NP LWG has discussed supporting funding proposals for CEs; however, members do not unanimously support CEs as a tool to protect GrSG habitat.</p> <p>NESR - Members of the NESR LWG have pursued opportunities to protect GrSG habitat through conservation easements. Routt County has a Purchase of Development Rights program for conservation easements. CPW easement management plans incorporate benefits to GrSG.</p>	<p>CPW: NWCO and MWR - CPW has partnered with land trusts, NRCS, and other entities to protect approximately 32,000 acres (~15,000 acres in Moffat and Rio Blanco counties, ~17,000 acres total in Routt County) acres of GrSG habitat in NWCO and 14,300 acres in MWR (~30% of overall range for this population) through perpetual CE in the last 8 years.</p> <p>MP - In 2012, CPW completed a 1,120 acre easement (Gunsight Pass) of GrSG habitat in Grand County.</p> <p>PPR - WMPs for 4 energy companies have been signed that incorporate these strategies.</p> <p>NP - In 2011, CPW funded a 2,240 acre conservation easement. Another 1,750 acre conservation easement has been approved for CPW funding and is expected to close in early 2013.</p> <p>NESR - CPW funded a 2,050 acre CE that includes extremely valuable GrSG habitat .</p>

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.1.7	Establish a mechanism for tracking conservation easements that include protection for sage-grouse.	CPW	2009	CPW: General - CPW maintains a conservation easement database for all easements held by CPW. COMaP is a statewide protected areas map for CO that tracks easements by other entities. COMaP is maintained at the Colorado Natural Heritage Program (CNHP), in partnership with the Geospatial Centroid at CSU. Current financial support for COMaP comes from the USGS Gap Analysis Program and Great Outdoors Colorado (GOCO). At the population level, both the Meeker and Steamboat Springs CPW Wildlife Biologists maintain a shapefile/database of existing conservation easements within the NWCO and MWR.	CPW: General - CPW has a conservation easement database for all easements held by CPW. COMaP is a statewide protected areas map for CO that tracks easements by other entities.
10.1.1.8	Investigate impacts of housing on GrSG, due to noise, pets, and increased activity. Use data to assist with planning and future housing development. [See Research Strategy 21.2.1.1]	BLM, CPW, Universities	Begin by 2020		
Objective 10.1.2 Long-term strategies, in occupied habitats of all GrSG populations					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.2.1	Reevaluate and identify occupied and seasonally important sage-grouse habitats and leks that are at highest risk of development.	CPW	2015 and ongoing	CPW: General - Mapped overall range for the NW Colorado population was updated/refined in 2012 based on radio telemetry data and distribution of modeled suitable habitat. Occupied and seasonal maps have been updated/created for all populations to use when referencing proposed development so that informed decisions can be made. Risk of housing development is assessed in the CCP (2008), but has not been updated/re-evaluated since 2008.	
10.1.2.2	For protection of identified GrSG areas (strategy 10.1.1.2), obtain funding from sources identified in strategy 10.1.1.4.	BLM, CPW, GOCO, Land Trusts, NGOs, USFS, USFWS	2015 and ongoing	CPW: General - CPW has prioritized the use of conservation easement acquisition funds available through the CPW Habitat Protection Program to protect GrSG habitat. NRCS and local land trusts have also been approached to combine funding possibilities to obtain partner easement funding.	CPW: General - CPW has prioritized the use of conservation easement acquisition funds available through the CPW Habitat Protection Program (~\$10 million to \$15 million available annually since 2005) to protect GrSG habitat.

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.1.2.3	Protect identified GrSG areas (strategy 10.1.1.2) from housing development by continuing implementation of short-term actions (e.g., strategies 10.1.1.3 and 10.1.1.6), through voluntary agreements (e.g., conservation easements, leases) with willing landowners.	BLM, CPW, County Governments, Land Trusts, LWGs, NGOs, federal agencies, USFS, USFWS	2015 and ongoing	<p>CPW: General - CPW has prioritized the use of conservation easement acquisition funds available through the CPW Habitat Protection Program to protect GrSG habitat. NRCS and local land trusts have also been approached to combine funding possibilities to obtain partner easement funding. Routt County has a Purchase of Development Rights program that provides funding for conservation easements.</p> <p>Appendix G: Conservation Easement Strategy</p>	CPW: General - CPW has prioritized the use of conservation easement acquisition funds available through the CPW Habitat Protection Program (~\$10 million to \$15 million available annually since 2005) to protect GrSG habitat. Routt County has a Purchase of Development Rights program that provides funding for conservation easements. Numerous conservation easements protecting GrSG habitat have been completed and others are in progress.
10.1.2.4	Review, monitor, and update short-term actions (strategies 10.1.1.1 - 10.1.1.7).	CPW	2015 and ongoing	CPW: General - CPW will continue to refine land protection programs for GrSG habitat, including the number of easements/acres needed, the highest priority locations for these easements, and the most effective land management practices that should be included in management plans.	
10.1.2.5	Monitor and track land-use changes and infrastructure development in relationship to occupied and seasonally important GrSG habitats and leks (see "Infrastructure" strategy, pg. 383).	CPW	2015 and ongoing	<p>CPW: MP - field staff track and provide comments via land use comments to local government and entities during project planning.</p> <p>NP - CPW is currently digitizing housing development and infrastructure in NP. This layer will be used in the NP seasonal habitat modeling process. The GIS mapping is occurring during the winter 2012 - 2013.</p>	
Issue 10.2 Reduced GrSG habitat effectiveness (quality)					
Objective 10.2.1 Short-term strategies, in occupied GrSG habitat, habitat fragmentation					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.1.1	Identify and map areas where new (proposed and potential) housing development could potentially fragment existing GrSG populations (in conjunction with strategy 10.1.1.1).	CPW	2010	<p>CPW: General - Areas most at risk of development are known locally by CPW staff.</p> <p>MWR - Areas of highest importance to GrSG in the MWR population were elucidated through a 2-year radio telemetry study, identifying areas where additional housing development would most negatively impact this population. These areas are known to local CPW staff and are identified in a project completion report (January 2013).</p> <p>NP - There is relatively little housing development occurring currently in NP. CPW is continually monitoring and identifying area of potential risk.</p> <p>PPR - Housing development is not a concern.</p>	CPW does not currently have a systematic method of mapping these areas on a range-wide scale. Jackson County does not have process for requesting CPW recommendations during the land use permitting process.

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.1.2	Monitor leks and other seasonally important sage-grouse habitat in jeopardy of fragmentation due to development.	CPW	2008 and ongoing	CPW: General - All known active (and some inactive/historic) leks are monitored by CPW annually, regardless of risk of fragmentation.	
10.2.1.3	Meet with land management agencies and local developers to address and recommend management actions to mitigate adverse fragmentation impacts to sage-grouse habitat. [See also Information, Communication, and Education Strategies 12.2.1.3 and 12.3.1.1]	LWGs	2009 and ongoing	General - LWG members consist of agency personal and private landowners who meet regularly and make recommendations on actions to mitigate adverse impacts to GrSG habitat. They are open to any individual who wishes to attend. Energy industry representatives attend some LWGs, but land developers are not currently active with any of the LWGs. NESR - Some members of the NESR LWG have been engaged in development planning within NESR GrSG habitat. PPR - not impacted by housing development activity.	
10.2.1.4	Create guidelines or recommendations to address the effects of habitat fragmentation (due to housing and related infrastructure) on sage-grouse populations.	CPW	2013	CPW: General - Local land use comments are generally handled by local CPW staff. No statewide/GrSG range-wide guidelines or recommendations have been developed.	
10.2.1.5	Discourage adverse impacts to sage-grouse habitat by conversion of sagebrush lands to 'park space' in developments (e.g., lawns, golf courses). Encourage natural, native landscaping to reduce water consumption and conversion of sagebrush habitats.	Counties, CPW, County Governments, LWGs, Private Landowners	Ongoing	CPW: General - CPW local staff provides comments about the impacts of altered native habitats and impacts to GrSG via land-use comment letters. CPW has an advisory, not a regulatory, role in these developments. MP - Few large developments with 'open space' have been occurring in Grand County over the last few years. The one active project is the former Orvis-Shorefox property. CPW has been in discussion with new developer and town of Granby concerning GrSG impacts with the proposed redesign. It is not yet certain if CPW recommendations to protect GrSG habitat will be adopted by the town of Granby.	
Objective 10.2.2 Long-term strategies, in occupied and potential GrSG habitat, habitat fragmentation					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.2.1	Conduct research to determine (1) sage-grouse habitat patch size and configuration needs; and (2) fragmentation impacts on GrSG movements and population isolation. [See Research Strategy 21.1.1.1]	BLM, CPW, Universities	Begin by 2010	See 21.1.1.1	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.2.2	Prioritize sage-grouse habitat areas (including from a statewide perspective) to protect from or to reduce impacts from habitat fragmentation due to housing and related development.	CPW, LWGs	2015 and ongoing	CPW: General - In 2012, CPW created Priority and General habitat maps, based on seasonal habitat suitability and distribution/concentration of GrSG, that identify areas most important to GrSG and that identify areas where private lands habitat protection is most warranted.	
10.2.2.3	Encourage local governments to develop land-use recommendations or guidelines to reduce GrSG habitat fragmentation from housing and related development (see also strategy 10.2.1.3).	CPW, LWGs	2015 and ongoing	CPW, LWGs: General - CPW staff comment on land use proposals in Moffat, Rio Blanco, and Routt counties that could affect GrSG habitat. Comments are not always adopted by local governments or planners.	CPW's authority is limited to making requests of local governments. These requests are then up to those entities to implement on a voluntary basis. Implementation is inconsistent.
10.2.2.4	Develop predictive models to monitor and assess impacts of habitat fragmentation in sage-grouse habitat. [See Research Strategy 21.1.1.2]	CCP SC, CPW, NGOs, Other Research Institutions, Universities	Begin by 2009	CPW: General - The CCP includes an assessment of areas most likely to be affected by housing development in the future. This assessment is based on research conducted by NREL/CSU. It has not been updated for GrSG habitat since the completion of the CCP in 2008.	
10.2.2.5	Where housing development is occurring in or near sagebrush habitat, encourage underground utilities (where feasible) along road ROWs to reduce raptor perches and the potential for wire-strikes by GrSG (see "Infrastructure" strategy, pg. 383).	County Governments, Utility Companies	Ongoing	Moffat: No proposed housing developments in GSG habitat. Grand: No applications for development in GSG habitat. Standard plat note on all development proposals in the county requires that all utilities must be placed underground. Jackson: Little housing development in the county that has included new infrastructure.	Grand: Since 2000, all developments require underground utility placement, which prevents fragmentation of GSG habitat.
Objective 10.2.3 Short-term strategies, invasive plants and contaminants					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.3.1	Identify potential contaminants associated with housing developments (e.g., household chemicals, fertilizers, sediments) that could impact sage-grouse.	CPW	Complete by 2009		
10.2.3.2	Develop informational materials regarding the impacts of invasive plants and contaminants on sage-grouse (see "Weeds" strategy, pg. 425). [See Information, Communication, and Education Strategy 12.2.1.1]	BLM, CPW, Universities	Begin by 2010		

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.3.3	Recommend seed-mix guidelines that are beneficial to sage-grouse (see CCP Appendix D, "Recommendations Regarding Plant Species for Use in GrSG Habitat Management and Restoration" and "Habitat Enhancement" strategy, pg. 349). [See also Information, Communication, and Education Strategy 12.3.1.1]	CPW	2008 and ongoing	CPW: General - CPW collaborates with NRCS, the HPP program, and other entities where seeding and/or reclamation projects are being undertaken in GrSG habitat. Local CPW staff have provided a seed mixture list to landowners and for use in WMP's. CPW has provided seed for specific private land projects. NESR - Routt County Planning considers GrSG habitats and CPW recommendations in permit authorizations. The majority of the GrSG habitat in Eagle County is located on BLM; BLM routinely considers GrSG habitat needs when conducting reseeding efforts.	MP - In 2011, a private/county gravel pit, which includes a lek site, was going to be reclaimed. Local CPW staff met with the landowner and provided a recommended GrSG seed mixture for the site.
10.2.3.4	Recommend management and revegetation techniques to decrease noxious and invasive weeds in disturbed areas of GrSG habitat (see "Habitat Enhancement [pg. 349] and "Weeds" [pg. 425] strategies). [See also Information, Communication, and Education Strategy 12.3.1.1]	CPW	2008 and ongoing	CPW: General - CPW regularly comments on land use proposals including proposed energy/infrastructure developments, gravel pits, etc. These comments include recommendations for reclamation of disturbed areas to suitable GrSG habitat when applicable.	

Objective 10.2.4 Long-term strategies, invasive plants and contaminants

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.4.1	Encourage local governments to formally adopt revegetation requirements (including seed type recommendations beneficial for sage-grouse, strategy 10.2.3.3) for sites disturbed by housing development and related infrastructure (see CCP Appendix D, "Recommendations Regarding Plant Species for Use in GrSG Habitat Management and Restoration").	LWGs	2015 and ongoing	NWCO LWG - Local government (Moffat County) has an active representative on the LWG. This representative conveys important issues affecting GRSG to county government, with some intent to reduce GRSG habitat fragmentation when evaluating land use proposals with a county nexus. MP - The MP LWG has not completed this strategy since the completion of the MP Plan in 2001. PPR LWG - Not Applicable because the PPR population is not impacted by housing development activity.	
10.2.4.2	Develop and implement ongoing outreach program for homeowners (e.g., workshops, brochures) regarding the potential effects of noxious/invasive weeds, fuels management, and contaminants on GrSG. [See Information, Communication, and Education Strategies 12.2.1.1 and 12.2.1.3]	CPW	2009		

Objective 10.2.5 Improve GrSG habitat in existing developments

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
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Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.2.5.1	Reduce fragmentation of sage-grouse habitat by encouraging low-impact siting of roads and utilities, as opportunities arise in existing developed areas (see "Infrastructure [pg. 383] and "Roads" [pg. 409] strategies).	County Governments, CPW, Utility Companies	2015 and ongoing	<p>CPW: General - CPW regularly comments on land use proposals including proposed energy/infrastructure developments, gravel pits, etc.</p> <p>PPR - Currently there are 4 signed WMPs in grouse habitat that have agreed to measures that cluster development, where possible.</p> <p>NP - Very little housing development is occurring.</p> <p>NESR - CPW provides recommendations to Routt County Planning. Routt County Planning considers GrSG habitats and CPW recommendations in permit authorizations. The majority of the GrSG habitat in Eagle County is located on BLM. CPW works with BLM on travel management.</p>	CPW comments and recommendations are not always adopted.
10.2.5.2	Prioritize areas for increasing sage-grouse habitat effectiveness (quality) within and adjacent to existing developments.	CPW, LWGs	2015 and ongoing	<p>CPW: General - In 2012, CPW completed a Priority and General Habitat map for GRSG which can be used to prioritize habitat in need of protection/enhancement/etc within and adjacent to existing developments.</p> <p>MWR - CPW has identified important seasonal use areas for GRSG within the MWR population area via a 2-year management study using radio telemetry. This work has led to prioritization of areas where habitat protection and/or improvement will be most effective and implementation of one habitat restoration project.</p> <p>NP - Very little housing development is occurring.</p>	CPW: MWR - CPW has identified important seasonal use areas for GRSG within the MWR population area via a 2-year management study using radio telemetry. This work has led to prioritization of areas where habitat protection and/or improvement will be most effective and implementation of one habitat restoration project.
Issue 10.3 Disturbance to GrSG					
Objective 10.3.1 Reduce disturbance to GrSG					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.3.1.1	Recommend seasonal closures or restrictions on recreational uses on public lands within sage-grouse habitat, in areas in close proximity to housing developments (see "Recreational Activities" strategy, pg. 407).	BLM, USFS	2009 and ongoing	USFS: Routt NF has seasonal and permanent road closures on NFSR 150 and NFSR 154 in part to protect grouse habitat.	BLM: Seasonal closures in important SG habitats will be considered & analyzed as travel management planning is completed.
10.3.1.2	Work with local governments to encourage homeowner associations and individual homeowners to adopt and enforce pet control measures in and near sage-grouse habitat.	CPW, County Governments, LWGs	2009 and ongoing		

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.3.1.3	Incorporate information about the impacts of human disturbance on sage-grouse in other outreach efforts to homeowners (see Issue 10.6). Include information on effects of open garbage on GrSG through an increase in some predators (e.g., skunks and raccoons). [See Information, Communication, and Education Strategy 12.2.1.3]	CPW	2009	MP - Local CPW and NRCS staff discuss the impacts of human disturbances (houses, out buildings, fences, some ag practices) with local landowners on a regular basis.	CPW: MWR - CPW contacted and requested compliance from one landowner whose dogs were suspected harassing GRSG.
Issue 10.4 Planning of housing developments					
Objective 10.4.1 Address GrSG needs in planning development					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.4.1.1	Provide information to local, state, and federal governments on sage-grouse habitat requirements and the status, location, and possible effects of different land-uses (including right-of-way and inholding access across public lands and land trades) on sage-grouse. Include discussion of issues and state statute regarding 35-acre parcels and estate taxes, and the need for additional incentives for large landowners to not develop lands. Analyze statutes for unforeseen impacts on sage-grouse (e.g., 3-mile annex annually, "leapfrogging" of cities). Discourage disposal of public lands in sage-grouse habitat. [See also Information, Communication, and Education Strategies 12.2.1.3 and 12.3.1.1]	CPW	Ongoing	CPW: NWCO, MWR, NESR - CPW regularly collaborates/consults with BLM and Moffat, Routt, and Rio Blanco counties on land use proposals that could affect GrSG. This has included educating parties on local GrSG habitat use and distribution, as well as offering siting and timing recommendations to decrease negative affects on GrSG. MP - Local CPW staff provide information via public meetings, land-use comment letters, landowner meetings, project planning meetings, etc. NP and PPR - Housing development not a major issue. NESR - The majority of GrSG habitat in Eagle County is located on BLM. CPW works closely with BLM to retain unfragmented GrSG habitat.	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.4.1.2	Work with county planners and commissioners to develop and modify land-use and zoning plans to protect sage-grouse habitats (e.g., cluster development, density credits, special zoning overlay districts, development rights transfers). Provide updated GrSG GIS layers to county governments, as data become available.	CPW, LWGs	Ongoing	<p>CPW: General-CPW provides updated GrSG habitat mapping & Priority Habitat areas to county govts upon request.</p> <p>NWCO-Moffat County has active rep on NWCO LWG. This rep conveys important issues affecting GrSG to county govt.</p> <p>MWR-CPW has provided updated Priority & General habitat data, as well as maps showing GrSG general distribution and seasonally important areas (obtained from radio telemetry work) to Rio Blanco County & their contracted surveyors.</p> <p>MP-Local county GIS staff are informed when GIS layers have been updated by CPW staff & should be downloaded. No modifications have been made by the county to modify land-use zoning to protect GrSG.</p> <p>PPR-WMP's (4 signed) with grouse habitat have agreed to measures that cluster development where possible.</p> <p>NP-CPW has encouraged Jackson County to develop a land use planning process to minimize fragmentation from housing development. CPW has provided Jackson County with GIS data.</p> <p>NESR-CPW provides recommendations to Routt County Planning, including ways to avoid, minimize and mitigate impacts to GrSG habitats. Routt County Planning strongly considers GrSG habitats & CPW recommendations in permit authorizations. Routt County maintains CPW GrSG GIS mapping in the county database & County Planning considers GrSG habitats in permit authorizations. Routt County has a Purchase of Development Rights program for conservation easements as well as a program designed to cluster developments. The majority of the GrSG habitat in Eagle County is located on BLM.</p>	

Issue 10.5 Increasing human water demand: changing water use

Objective 10.5.1 Address GrSG habitat needs in water use decisions

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.5.1.1	Identify areas of overlap between seasonally important sage-grouse habitat and aquatic and riparian ecosystems.	2009 and ongoing	CPW	<p>CPW: General - Via GIS data layers, overlap between GrSG habitats and riparian systems could be identified as part of the CPW seasonal habitat modeling process. CPW has developed seasonal habitat models and is refining a NP-specific seasonal habitat model. The models can be used to identify overlap with riparian systems.</p> <p>PPR - Mapping products have been developed for PPR this year (2012) and should be available to use in identifying areas of overlap between these habitats in the near future.</p> <p>A specific NESR seasonal habitat model will be developed in the future.</p>	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.5.1.2	Stay informed about and provide input regarding Colorado Water Conservation Board actions regarding water rights or uses that might affect sage-grouse habitat, referring to areas identified in strategy 10.5.1.1 (e.g., get on mailing list, attend hearings).	As Needed	CPW	CPW: General - CPW closely monitors CWCB actions and other water projects. MP - CPW was an active participant in commenting on and making mitigation recommendations for the Moffat and Windy Gap firming projects (front range water supply issues), ending in 2011.	
10.5.1.3	Work with water development interests to seek avoidance of, changes to, or mitigation for water projects that could affect sage-grouse.	As Needed	CPW	CPW: NWCO, MWR - No significant water development (large reservoir) projects have progressed beyond the proposal stage within GrSG habitat in the past 4 years. MP - CPW works with local ranches to maintain the use of water rights on the property for the benefit of wildlife including GrSG and provides support for local ranchers who are working with Water Boards to keep water in the basin. CPW easements require that water rights remain on the ranch to maintain habitat conditions. All easements obtained by CPW in MP have also constrained associated water rights. CPW was an active participant in commenting on and making mitigation recommendations for the Moffat and Windy Gap firming projects (front range water supply issues), ending in 2011. NP, PPR - Have not implemented any management related to this action. NESR - As proposals are developed, CPW will provide recommendations relating to water development interests.	
10.5.1.4	If a large reservoir project appears likely near sage-grouse habitat, consider the potential impacts to sage-grouse from indirect effects such as recreation, real estate development, and road realignment.	As Needed	CPW	CPW: NWCO, MWR - No significant water development (large reservoir) projects have been proposed within GRSg habitat in the past 4 years. NP, PPR - Have not implemented any management related to this action. NESR - As proposals are developed, CPW will provide recommendations relating to water development interests.	MP - From 2007 through 2011, CPW staff was involved in comments for the Windy Gap Firming Project. A proposed new reservoir site was located near the town of Granby and in known GrSG habitat. CPW commented that this site would remove limited existing habitat available for GrSG in east Grand County. The reservoir site was not selected as an alternative.
10.5.1.5	During regional and statewide water planning efforts provide information on relationships between sage-grouse habitat and water uses.	As Needed	CPW	CPW: NP - CPW was engaged in the non-consumptive water use planning for NP. GrSG habitats were considered as a non-consumptive use.	
Objective 10.5.2 Provide for adequate water in GrSG habitat					
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.5.2.1	Work with willing landowners and public agencies to keep water rights tied to existing uses in local areas in GrSG habitat. Explore incentives to accomplish this task, including filing objections with the water court on any change of use.	CDWR, LWGs, NGOs	As Needed	<p>CPW: MP - All easements closed in MP include associated water rights that will be tied to the property in perpetuity. CPW in MP has protected over 7,700 acres in easements for GrSG and added approximately 950 acres of GrSG range to the existing Hot Sulphur SWA. Included in the acreage above is the 1,120 acres easement (Gunsight Pass) that was closed in 2012.</p> <p>NESR - CPW and other organizations in the Upper Yampa River basin are working to maintain water rights within the basin.</p> <p>NP LWG is active in attempts to keep water rights in the North Park basin.</p>	CPW: General - All conservation easements closed with CPW require that sufficient water rights remain tied to the property to maintain the habitat values in perpetuity.
10.5.2.2	Work with willing landowners to develop or maintain GrSG brood-rearing habitat, or replace lost or impacted habitats.	CPW, LWGs, NRCS, USFWS	As Needed	<p>CPW: General - Development and maintenance of brood-rearing habitats is one of the habitat enhancement techniques pursued by CPW and partner agencies (particularly the NRCS and USFWS). A number of successful wet meadow developments have been completed in GrSG habitat (see the habitat enhancement project table in that chapter for a listing of completed projects).</p> <p>MP - This strategy has not been completed in MP outside of easement protection.</p> <p>NP - CPW, NRCS, and USFWS work with willing landowners to improve brood-rearing habitat in NP.</p> <p>NESR - CPW, NRCS, and USFWS have worked with a LWG member to develop brood rearing habitat on private land.</p>	
Issue 10.6	Lack of awareness of GrSG				
Objective 10.6.1	Educate public about GrSG				
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.6.1.1	Compile existing information and guidelines pertaining to housing development-associated impacts on sage-grouse.	CPW	2009		
10.6.1.2	Develop key messages, focused on different types of development (e.g., high or low density rural housing, clustering), to include in informational materials about GrSG (strategy 10.6.1.3). [See Information, Communication, and Education Strategies 12.2.1.1 and 12.2.1.3]	CPW	2009		

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.6.1.3	Prepare and distribute informational materials about sage-grouse to land-use planners, developers, landowners, realtors, utility companies, and housing residents. Conduct outreach program to get materials to second homeowners and 35-acre ranchette owners. [See Information, Communication, and Education Strategies 12.2.1.1 and 12.2.1.3]	CPW	2009	<p>CPW: General - CPW distributes GRSG data to land-use planners and other entities upon request.</p> <p>NESR - CPW has worked with the Community Ag Alliance in Routt County and include this organization on NESR GrSG LWG mailings and issues. The Community Ag Alliance conducts an outreach program to second homeowners and small-acreage homeowners.</p> <p>PPR and NP - Housing development is not a major issue.</p>	
10.6.1.4	Develop and implement an ongoing outreach program for homeowners regarding housing development impacts on sage-grouse (e.g., provide workshops and information on the potential effects of fuels management, noxious weeds, and pets on sage-grouse). Contact homeowner associations and landowner cooperatives. [See Information, Communication, and Education Strategies 12.2.1.1 and 12.2.1.3]	CPW	2009		
10.6.1.5	Encourage local agencies, landowners, groups, and interested parties to gain local representatives' support of decisions regarding sage-grouse conservation actions.	LWGs, NGOs	As Needed	<p>MP LWG - This strategy has been completed in MP through the support provided by county commissioner and state representative for CPW easement protection.</p> <p>NP LWG - Local representatives (County Commissioner and County Administrator) are active on the NP LWG and engaged in GrSG issues.</p> <p>NESR LWG - Routt County Commissioners have been engaged in the NESR LWG and are aware of GrSG issues.</p>	
10.6.1.6	Install sage-grouse information signs (e.g., road crossing signs, kiosks) where appropriate.	CPW	As Needed	<p>CPW: MP - This has not been identified as a need within the MP population. In addition, there are local concerns with increasing awareness and attracting the public to areas where grouse are known to use or concentrate but are threatened by human impacts. An example is on BLM lands near the town of Granby. CPW, BLM and the MP LWG had discussed putting up a sign for the public to limit off road activity (walking dogs off leash) because of a known lek. There was concern that signing would attract the public by identifying a lek site.</p> <p>PPR - CPW has participated with some energy companies in developing and placing GrSG road crossing signs on gas field access roads, generally in association with speed limits to reduce collisions with GrSG.</p>	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
10.6.1.7	Promote and expand the "Guide to Rural Living" to include the impacts of housing, pets, lawns, and other housing-associated issues on sage-grouse. Work with homeowners, homeowner associations, county commissioners, and chambers of commerce on impacts of housing to sage-grouse and the importance of leks, nesting, winter and brood-rearing habitat.	CPW, County Governments, LWGs	2009 and ongoing		
10.6.1.8	Encourage county commissioners, planning departments, and other planning groups to include local sage-grouse working groups in discussions regarding housing prioritization and planning at the local landscape (population) level, to minimize adverse impacts to sagebrush habitats.	CPW, County Governments, LWGs	2008 and ongoing	<p>CPW: NP - Local representatives (County Commissioner and County Administrator) are active on the NP LWG and engaged in GrSG issues.</p> <p>NESR - Routt County Planning and Routt County Commissioners are engaged with the NESR LWG. CPW makes recommendations to Routt County to avoid, minimize and mitigate impacts to GrSG habitats. Routt County Planning seriously considers CPW recommendations during permit authorizations.</p> <p>MP - This strategy has not been completed in MP.</p>	
10.6.1.9	Continually look for new partners and educational opportunities. Develop a central location for interested parties to become involved.	CPW, County Governments, LWGs	ongoing	<p>CPW/LWGs: General - LWG meetings are open to all interested parties and all meetings are public.</p> <p>MP - LWG has hosted 2 public presentation workshops over the last 4 years to provide information on GrSG habitat and life stages needs, as well as research updates. These presentations were directed more toward the large ranch owner than the urban housing development owner or ranchette owner. Local CPW staff works with Middle Park Land Trust to help educate landowners about GrSG and other wildlife habitat needs.</p> <p>NP - The County Administrator is the Chairman on the LWG and his office is a central location for anyone wishing to be involved.</p>	