

16. Piñon-Juniper Encroachment

ISSUE 16.1	In some areas of Colorado, loss of GrSG habitat can be attributed to piñon-juniper expansion and encroachment into sagebrush communities.				
OBJECTIVE 16.1.1	Reduce the encroachment of piñon-juniper in those portions of NESR, NWCO, and PPR GrSG populations identified in Fig. 30, pg. 182.				
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
16.1.1.1	For each of the 3 GrSG populations, prioritize areas (Fig. 30, pg. 182) where removal of piñon-juniper to enhance GrSG habitat is needed (see "Habitat Enhancement" strategy, pg. 349). Focus should be on sites having appropriate characteristics (e.g., soil characteristics, sagebrush understory; also review historic photos) to support sagebrush communities, due to increased probability of success and reduction in cost. Identify options, schedules, and funding opportunities for specific projects.	BLM, CPW	2008	CPW: General - CPW has identified a number of areas (including areas noted in Figure 30 of the CCP) where piñon-juniper encroachment of sagebrush habitat has occurred. In the 3 areas identified as priority areas in the CCP (NWCO, PPR and NER) options, schedules and funding opportunities have been identified. In the 2 other populations (MWR and MP), not identified in the CCP, PJ removal projects have also occurred. NP - Piñon-Juniper encroachment is not an issue. See Appendix A: Habitat Treatments See Appendix B: Summary of Expenditures on GrSG in Colorado 2006-2012	CPW: General - Prioritized areas have been identified and treatments have been implemented. See 16.1.1.4.
16.1.1.2	Identify ecological site characteristics and sagebrush species (Winward 2004) associated with GrSG habitat project areas identified in strategy 16.1.1.1 (Monsen 2005).	BLM	2008 and ongoing	CPW: General - Determination of site characteristics, including sagebrush species is a standard part of CPW project planning.	
16.1.1.3	Conduct pre-project planning (e.g., necessary archaeological clearances, EAs) and pre-restoration monitoring for sites selected for treatment in GrSG habitat in strategy 16.1.1.1.	BLM, USFS	Begin 2008, and ongoing	USFS: Completed as part of Standard Operating Procedure. CPW: General - CPW has conducted a number of PJ encroachment treatments on public lands. Necessary pre-project planning has been conducted as required by the land owning agency, sometimes at CPW expense and sometimes at the land owning agency's expense. The Little Snake and White River BLM Field Offices have developed programmatic Environmental Assessments that have streamlined the design and implementation of PJ encroachment projects in those Field Offices.	

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16.1.1.4	Implement appropriate treatment/restoration action(s) (Monsen 2005) for selected sites (identified in strategy 16.1.1.1) in GrSG habitat, as funding/personnel levels allow. Treatment options include, but are not limited to: prescribed fire, mechanical treatments (such as roller chopping, hydro-axing, or chaining), and reseeded, if necessary.	BLM,USFS	Begin 2008, and ongoing	<p>USFS: Routt NF has conducted re-seeding in the California Park Area. White River NF has conducted on the Eagle / Holy Cross Ranger District and Rifle RD.</p> <p>CPW: General - CPW has implemented a number of treatments in the prioritized areas where piñon-juniper encroachment of sagebrush habitat has occurred. Projects have been implemented in the 3 areas identified as priority areas in the CCP (NWCO, PPR and NER) as well in the 2 other populations (MWR and MP) not identified as priority areas. NP - Piñon-Juniper encroachment is not an issue.</p> <p>NWCO - CPW has implemented 6 different piñon-juniper encroachment projects totaling approximately 2,600 acres in the NW Colorado population since 2008. Additional projects are in the planning stages.</p> <p>NESR - In 2011 and 2012, CPW funded the removal of 898 acres of piñon-juniper with a hydro ax in an historic lek area. This area is also a travel corridor and winter area for GrSG in the NESR population. In 2012, BLM funded an additional 263 acres of hand-cutting of piñon-juniper in the same area. MWR and MP - While the MWR and MP population areas were not identified in the CCP as populations where PJ Encroachment was an issue, CPW has implemented 3 small projects in MWR on the Oak Ridge SWA totaling about 50 acres to benefit GrSG. and in 2012, MP CPW, USFWS Partners for Fish and Wildlife, and NRCS partnered to removed 500 acres of PJ encroaching on private lands north of Kremmling. The sites in MP are Level 1 and 2 PJ sites.</p>	<p>CPW: General - CPW has secured approximately \$900,000 of SCTF funds that have/can be used for treatment of PJ encroachment. PPR - CPW Researcher B. Walker is studying the effectiveness of using PJ removal to grouse occupancy using telemetry. Several study plots in the North PPR have been established on BLM lands and PJ was removed with a Hydroax. Monitoring of these plots for GrSG use will continue over the next couple of years. This project is a joint effort with the BLM.</p> <p>See Appendix A Habitat Treatments for details of projects completed.</p>
16.1.1.5	Monitor vegetation response to treatments in GrSG habitat (implemented in strategy 16.1.1.4), and evaluate treatment success (Monsen 2005).	BLM,USFS	Post-treatment	USFS: Occurring or planned in restoration areas across the Routt and WRNF.	CPW: PPR - CPW Researcher B. Walker is studying the effectiveness of using PJ removal to grouse occupancy using telemetry. Several study plots in the North PPR have been established on BLM lands and PJ was removed with a Hydro ax. Monitoring of these plots for GrSG use will continue over the next couple of years.
16.1.1.6	Reseed if necessary in areas treated in GrSG habitat (strategy 16.1.1.4), to reestablish understory shrubs and herbs using methods outlined in Monsen (2005). See also CCP Appendix D, "Recommendations Regarding Plant Species for Use in GrSG Habitat Management and Restoration".	BLM,USFS	Ongoing	<p>USFS: Restoration plan developed and implemented in Routt NF. This is also part of the Sagebrush Enhancement Project on Eagle / Holy Cross RD.</p> <p>CPW: General - Supplemental seed has not been necessary in projects conducted to date, except in a limited basis where equipment was trailed, etc.</p>	
16.1.1.7	Re-treat areas in GrSG habitat (identified in strategy 16.1.1.1), as necessary, to control re-invading trees.	BLM,USFS	Post-treatment, every 5-10 years	<p>USFS: Ongoing in WRNF.</p> <p>CPW: General - PJ encroachment treatments conducted by CPW have not yet reached the point where re-invasion has occurred.</p>	

Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
ISSUE 16.2	In some areas of Colorado, loss of GrSG habitat can be attributed to piñon-juniper expansion and encroachment into sagebrush communities.				
OBJECTIVE 16.2.1	Refine and regularly update mapping of piñon-juniper encroachment areas within occupied and potential GrSG habitat in all populations.				
Reference Number	Conservation Strategy	Responsible Parties	Timeline	Implementation	Effectiveness
16.2.1.1	Re-evaluate and update (for accuracy and currency) existing maps of piñon-juniper distribution in GrSG habitat (Fig. 30, pg. 182).	CPW	Every 5 years or as needed	CPW: General - No comprehensive effort to update areas of piñon-juniper encroachment has been undertaken. Recently developed seasonal habitat models may have some utility in looking at PJ encroachment across landscape scales. PPR - Habitat suitability maps generated by CPW Researcher B. Walker are based on birds with radio transmitters and could be used to determine areas where PJ might be reduced to improve GrSG habitat. However, no specific maps have been developed that depict PJ distribution across the PPR specifically.	