



PREDICTING THE EFFECTS OF GRASSLAND CONSERVATION RESERVE PROGRAM ENROLLMENTS AND EXPIRATIONS ON GREATER PRAIRIE-CHICKENS IN NORTHWESTERN MINNESOTA

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ABSTRACT³

The Conservation Reserve Program (CRP) has the potential to influence the abundance of greater prairie-chickens (*Tympanuchus cupido pinnatus*), a species of special concern in Minnesota, by altering the amount and configuration of grassland and wetland in agriculturally dominated landscapes. However, the CRP has experienced recent declines in enrollments in northwestern Minnesota, and these declines are expected to continue following the reduced enrollment cap in the 2014 Farm Bill, which funds the program through 2018. These cuts increase the need to prioritize CRP reenrollments or new enrollments that are likely to have the most impact on greater prairie-chicken populations. To predict changes in greater prairie-chicken abundance caused by expirations of CRP contracts and target CRP enrollments at both the landscape and lek scale, we used models relating lek density and the number of males at leks to CRP enrollments and the resulting landscape structure. We simulated different land cover scenarios of CRP contract expirations, and results indicated that the abundance of greater prairie-chickens would be negatively impacted. Simulations of targeted CRP contract enrollment suggested mixed effects on greater prairie-chicken abundance. Adding grassland cover that increased existing grassland contiguity had a positive impact, while additions that decreased contiguity had a negative impact. Landscapes with a large proportion of existing CRP grasslands and wetlands are most likely to continue to support high prairie-chicken abundance through reenrollment and enrollment of new contracts that are large and contiguous with existing grassland and wetland cover types. Our findings highlight the importance of maintaining existing CRP grasslands and wetlands in landscapes that currently have low levels of grassland and wetland cover.

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