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# Establishment of Fuel Breaks to Protect Sage-Grouse Habitat in Northwest Utah

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## Introduction

One of the largest threats to greater sage-grouse (*Centrocercus urophasianus*) is habitat loss due to wildfire. Cheatgrass is an invasive annual grass that increases the frequency and severity of wildfire, creating an even larger threat to sage-grouse.

One approach to protect sage-grouse habitat is to implement fuel breaks of perennial grasses to slow the spread of wildfire. Perennial grasses are used in these fuel breaks because they stay green longer into the summer and are more resistant to the spread of fire.

The fuel breaks were implemented in Dry Basin in 2016 and Badger Flat in 2011 by removing the undesirable species, followed by a winter reseeding of the desirable vegetation species.



The treatment area at Dry Basin. The fuel break can be seen running parallel along the road.



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## Methods

Frequency was used to estimate the amount and composition of vegetation one and two years post-treatment.

1. There were 13 transects at Dry Basin, and 7 transects at Badger Flat.
2. Treatment transects paralleled the road and the control transect was placed 50 meters outside of the treatment area.
3. Frequency was measured 10 times along each transect using a frequency grid.

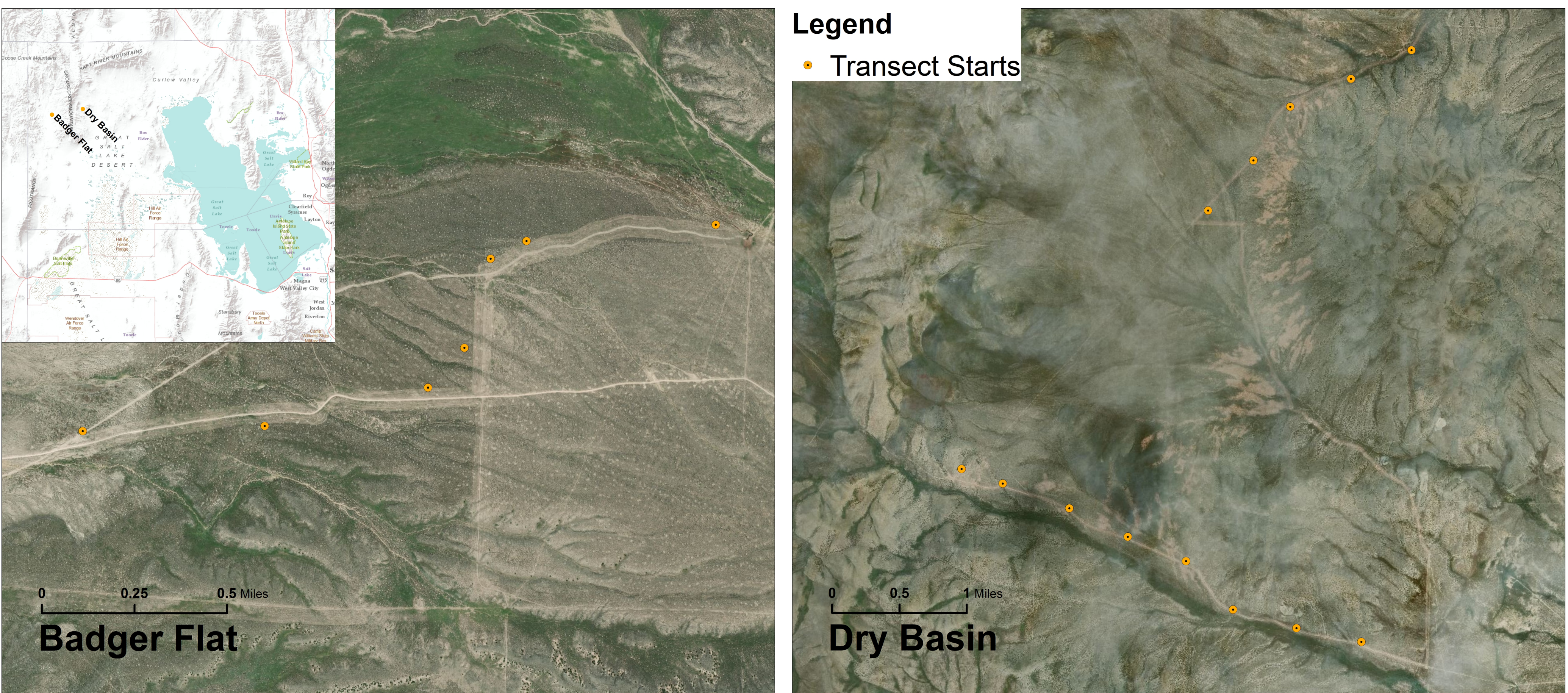
## Results

The final frequency was calculated using the average of all the transects for each plant group.

Dry Basin: There were no clear results as to the effect of the treatment on the frequency of either grass type.

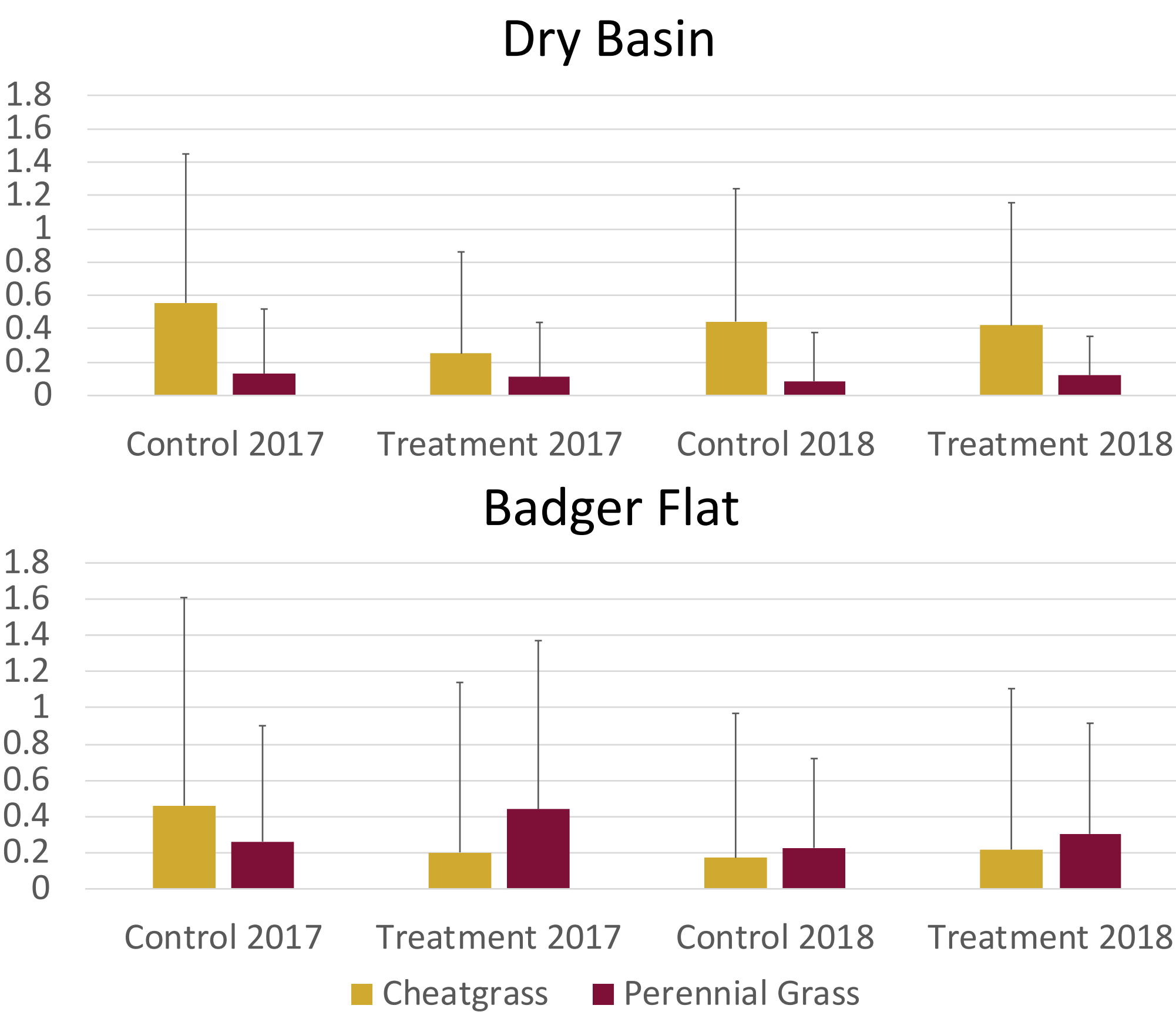
Badger Flat: Cheatgrass was reduced in the treatment compared to the control, but there was not a significant difference in the frequency of perennial grasses.

Figure 1 – Map of Study Sites



Badger Flat is located just west of the Grouse Creek Mountains, while Dry Basin is located just to the east. Dry Basin is one of the largest sage-grouse leks in Utah, with a high count of over 300 birds.

Figure 2 – Mean Frequency of Grass Cover



## Conclusions

Reducing wildfire risk is an important sage-grouse conservation strategy. Our experiment to reseed potential fuel breaks did not result in an increase in perennial grass or a decrease in cheatgrass.

Further research is needed on seed varieties and seeding methods to establish perennial grasses in this part of Utah.