



## Characterizing browsing and aspen regeneration on the Uncompahgre Plateau

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Aspen occurs across much of the Uncompahgre Plateau, in pure stands as well as stands mixed with conifers. Successful regeneration of aspen appears to be more limited across the Plateau, as a result of low rates of major disturbance, sudden aspen decline (SAD), and high browsing pressures on aspen suckers. Forest managers may have an opportunity to foster more aspen regeneration, if we can provide clear insights on the key factors. This assessment program will address three questions:

1. How substantial are the effects of browsing on aspen regeneration (to tree-size recruitment)?
2. To what extent is browsing impact caused by cattle or by deer and elk?
3. What is the pattern of browsing impact across the Plateau, and are there any apparent explanations for the pattern (elk populations within local areas; season of use by elk or cattle; basic site factors (such as elevation, forest type, conifer basal area)

The answers to these questions probably differ from one portion of the Plateau to another, so it will be important that our sampling designs can give appropriate insights for different areas. Three interrelated projects will be developed.

**Project #1. Small exclosures.** Small exclosures using hog wire (32 feet x 32 feet, or similar) will be used to find out 1) what level of browsing occurs from all big animals together (with plot fences up all year round), and 2) what level occurs when cattle are excluded (by raising the fences when cattle are present) but elk and deer continue to have access during the rest of the year. We will have 13 locations for the small exclosures, including aspen stands with and without SAD problems, aspen mixed with conifers, and areas that have received forest restoration treatments. The exact locations will be developed with conversations with interested permittees.

### **Project #2, Pasture surveys before and after cattle use**

Most of the pastures on the Plateau are used for only 2 to 3 weeks during the growing season, offering a chance to characterize aspen shoots before and after cattle are present. The palatability of aspen to cattle may differ through the growing season, so our surveys will include pastures that are grazed cattle at different times through the summer and fall.

### **Project #3: Regeneration survey across the Plateau**

We will characterize aspen regeneration at random locations across the plateau, using GIS for sample point locations. At each point, we'll survey the adequacy of aspen regeneration, as well as some basic characterization of the forest composition and structure. This information will provide critical insights on portions of the Plateau with strong regeneration, and areas where active management might be warranted. For example, are SAD-affected stands showing notably less regeneration than other stand types?

This collaborative work can also be broadened in several ways. We can develop an "Up With Aspen" project, including "Adopt an Aspen Grove" (individuals and groups can volunteer to help with fencing in areas designated by forest managers); developing a "Do it yourself guide for Aspen Regeneration" for local land owners (perhaps in conjunction with local building supply stores), and a variety of outreach/education products and programs.