

Short-term changes in plant communities in arid Wyoming big sagebrush ecosystems from fuel treatments

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◆ What plant community elements change with fuel treatments?

Decreases	Increases
<ul style="list-style-type: none"> ◆ Fire <ul style="list-style-type: none"> - Shrubs - Perennial grasses - Mosses ◆ Mowing <ul style="list-style-type: none"> - Shrubs ◆ Plateau <ul style="list-style-type: none"> - Cheatgrass - Perennial grasses - Annual forbs 	<ul style="list-style-type: none"> ◆ Fire <ul style="list-style-type: none"> - Basal gap size - Bare ground ◆ Mowing <ul style="list-style-type: none"> - Cheatgrass - Perennial grasses ◆ Plateau & Fire <ul style="list-style-type: none"> - Bare ground - Basal gap size

◆ Spatial structure of perennial plants (gaps) is related positively to cheatgrass cover.

- High livestock grazing intensity plus heat and water stress indirectly create these gaps
- Fire & Plateau also increases gaps

◆ Perennial grasses associate with sagebrush with high stress (heat, water or livestock grazing intensity)

◆ Fire kills shrub and grasses and increases basal gaps

◆ Monitoring gaps between perennial plants may provide a fast early warning indicator of invasion potential.