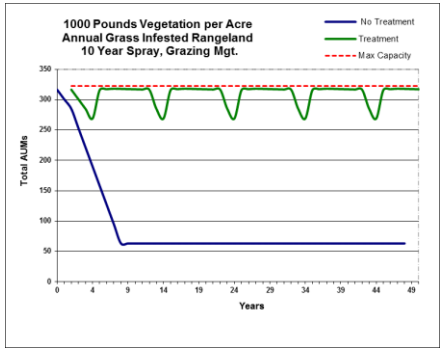
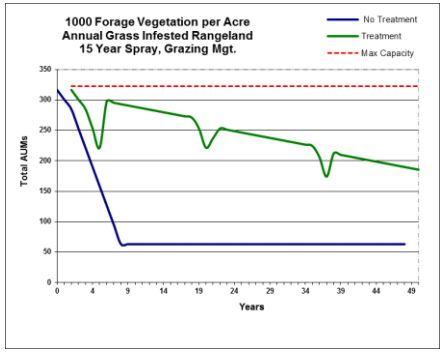
Economics of Invasive Annual Grass Control in Eastern Oregon

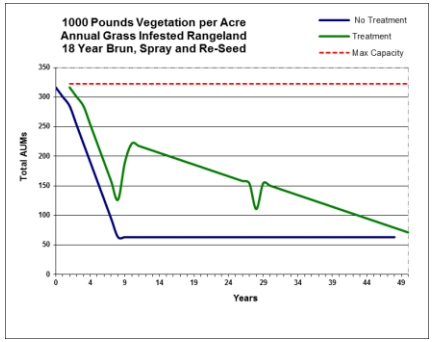
1,000 Pounds Vegetation per Acre Site Characteristics: Rangeland grazed early spring to late summer, producing 1,000 pounds vegetation per acre 1,000 Acre pasture, annual precipitation 12-16 inches, Bluebunch Wheatgrass, Idaho Fescue, Great Basin Wild Rye site infested with invasive annual grasses (including cheatgrass, medusahead and ventenata). Every 5 to 10 years this site experiences drought, wildfire or other natural disturbances. Note: Treatment costs, forage response, timelines and actual numbers will vary with site conditions.



Treatment: Aerial application of pre-emergent Imazapic herbicide (and spot treatment) and good grazing management. $15/Acre treatment every 10 years.
Evaluation Period: 50 Years.
Increased Carrying Capacity: .22/AUMs/Acre/Year
Cost per AUM: $9.85/AUM
Annual Net Benefits:$2.58/Acre/Year



Treatment: Aerial application of pre-emergent Imazapic herbicide and average grazing management. $30/Acre treatment (after wildfire) about every 15 Years.
Evaluation Period: 50 Years.
Increased Carrying Capacity: .15/AUMs/Acre/Year
Cost per AUM: $13.53/AUM
Annual Net Benefits: $1.42/Acre/Year



Treatment: Aerial application of pre-emergent Imazapic herbicide, prescribed burn, range seeding and poor grazing management. $125/Acre treatment every 25 years.
Evaluation Period: 50 Years.
Increased Carrying Capacity: .07/AUMs/Acre/Year
Cost per AUM: $87.64/AUM
Annual Net Benefits: -$4.39/Acre/Year

Treatment Benefits:

- Reduced sheet, rill, wind, gully erosion.
- Improved soil health.
- Reduced nutrients and sediment in surface water.
- Improved water infiltration.
- Weed removal increases desirable plant community health, vigor and biodiversity.
- Maintain or improve forage productivity.
- Reduced wildfire hazard.
- Improved fish and wildlife cover and habitat.
- Increased production of forage.
- Improved livestock health.
- Increased profitability in the long run.

Treatment Risks:

- Annual grass treatment costs.
- Annual operation and maintenance costs.
- Forbs and non-target plant species may be negatively impacted.
- New, un-proven treatment.