

Rangeland Pasture Enhancement for Elk and Invasive Plant Management



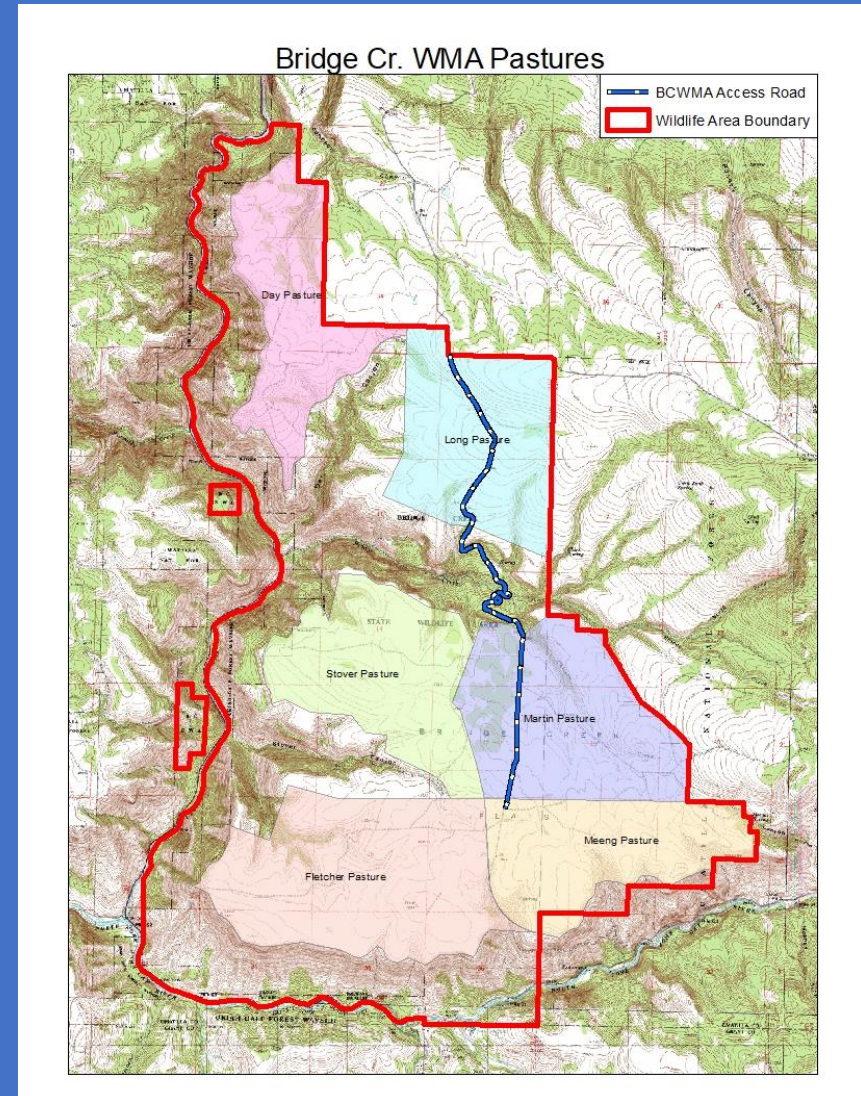
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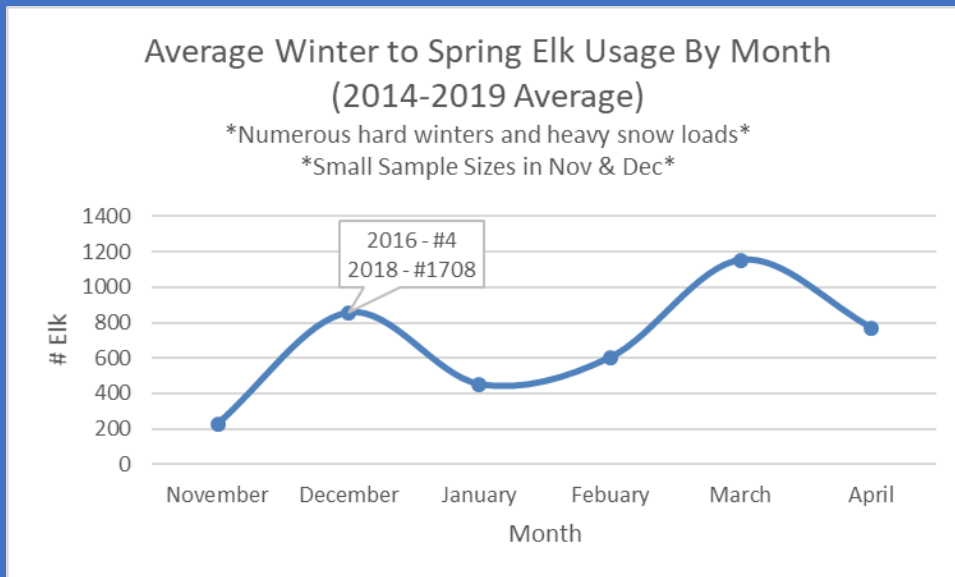
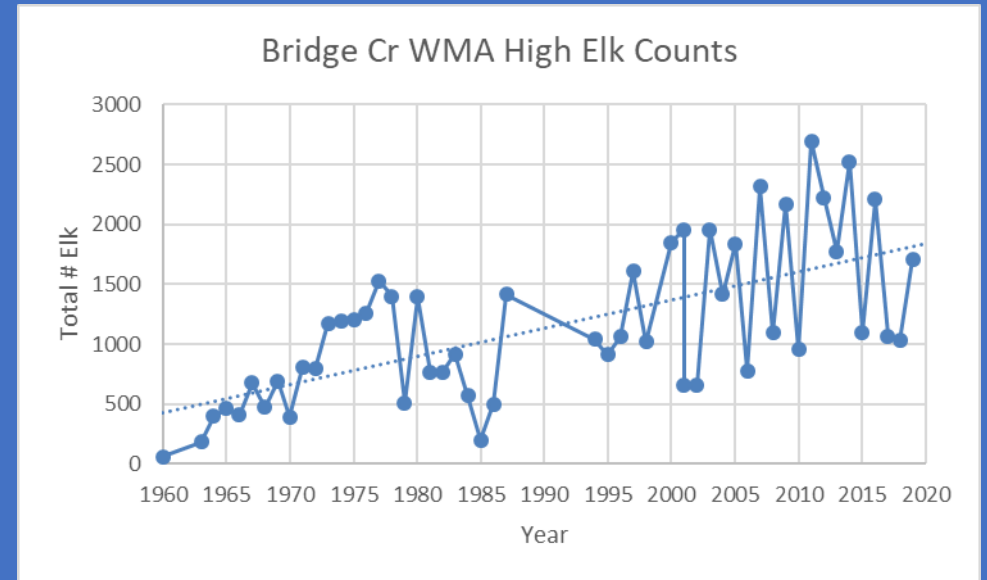
Overview

- Public Access and Closures
 - Open to public April 15th - Nov 30th
 - Partial road closure mid-November
- Oregon Conservation Strategy (OCS)
 - Blue Mountain Ecoregion
 - Conservation Opportunity Area ID 168
 - Numerous strategy habitats (ie Grassland, Ponderosa Pine Woodland, & Riparian) and species (ie bats, hawks, woodpeckers, Long-billed Curlew, & Steelhead)
- Grazing Program
 - 8,859 ac between 6 pastures
 - 4 pasture deferred rest rotation
 - Season May 15th – Aug 15th
 - Primarily yearling cattle operation
 - Grazing contract for 960 AUMs & target ~20% forage production
 - Program oriented to provide various benefits of grazing to improve habitat conditions and complement management goals



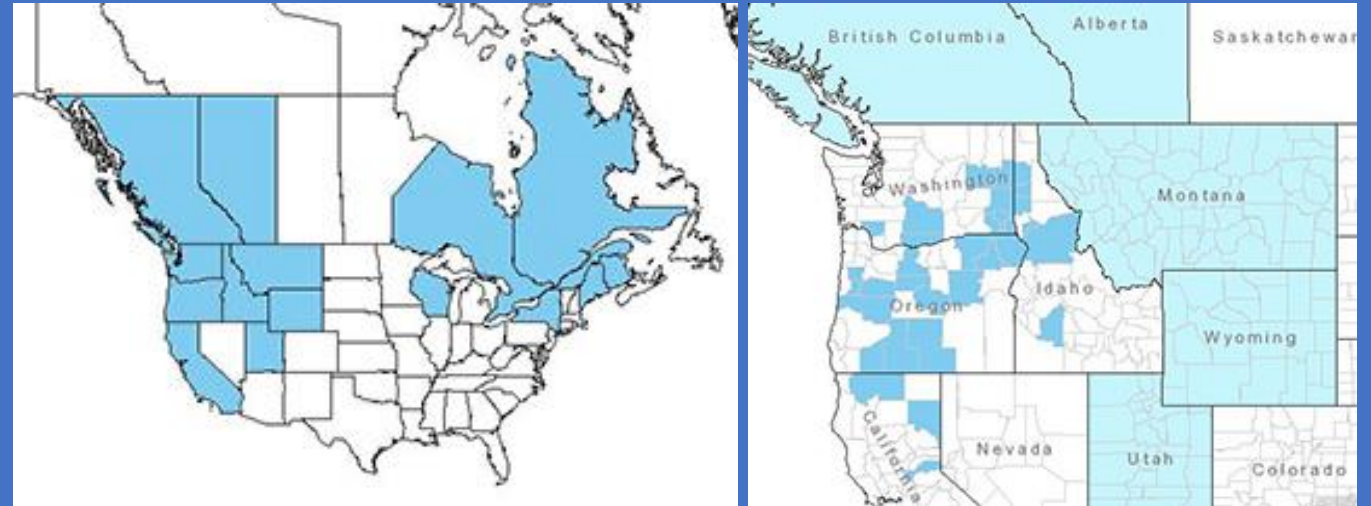
Overview

- Wintering Elk
 - Observing upward trend over years
 - Winter highs and lows
 - Snow cover dictates much
 - Management operations oriented to provide as much forage as possible for winter usage



Resource Concerns and Range Condition

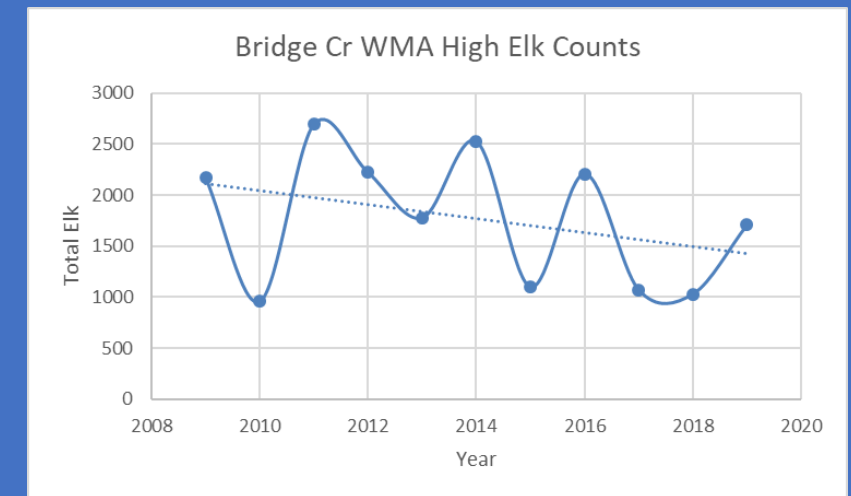
- Numerous weeds present
- ~2004 *Ventena dubia* identified on WMA
 - Primarily limited to shallow & cobble soil types
- ~2010 Noticeable influence of *Ventena* across range of soils present and dominance within heavily disturbed areas (burn areas)
- ~2013 Range condition judged by staff to be “Fair” with notable decreasing production values and abundance of young cohorts of desirable Bluebunch & Idaho Fescue plants
- Key focal species still within historic range of variability for sites.
- Staff continually weighing management options to maintain or better condition



Distribution of *Ventena*. plants.usda.gov



plants.usda.gov



Range Enhancement and the Start of a Plan

- 2015 Test Trial of Open Range G herbicide
 - Worked with Wilbur Ellis to test on 2 treatment areas totaling ~160 acres
 - Product was still in R&D phase and created with focus on Medusahead and Cheatgrass. Carried caveats
 - Target rate ~10 lbs/ac utilizing ground based spreader/seeder. Low rate chosen to negate impacts to desirable grass/forbs
 - Vegetative monitoring conducted by independent 3rd party.
 - Results:
 - Ventenata cover values reduced from 67% and 59% to 45% and 27%. Associated production values reduced from >898 and 704 lbs/ac to 253 and 100 lbs/ac
 - Increases in bluebunch and Idaho Fescue observed
 - Harsh terrain, equipment failure, operator error



Formalization of a Plan and Moving Forward

- 2017 Plan Development and Implementation
 - Developed formal pasture restoration and enhancement plan
 - Goal: Reduce overall distribution, density, and/or competitive effects of invasive annual grass to acceptable tolerance levels. Facilitate recruitment and propagation of desirable species which may exhibit increased resistance to effects of annual grasses while increasing habitat values and standing crop forage for wintering wildlife.
 - Striving to find threshold in which we maximize control of invasive annuals while minimizing, or incurring acceptable, injury to desirable grass and forbs.
 - Modified livestock grazing regime to withdraw 1 pasture for treatment at a time
 - Modification to grazing rotation with no net loss to AUM allocation.
 - Systematic treatment of pasture until completion then returned into rotational grazing.



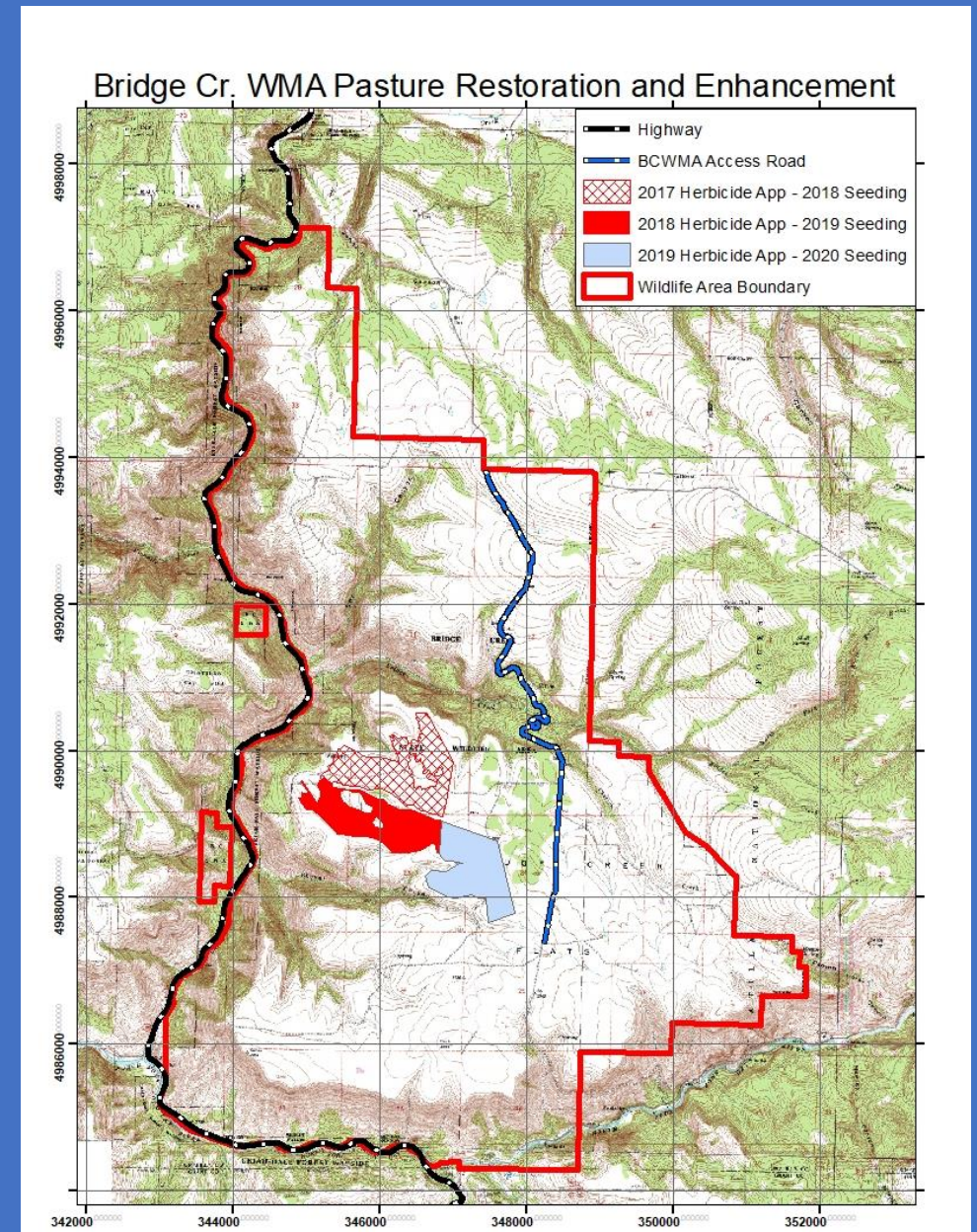
Formalization of a Plan and Moving Forward

- Project areas ~300-500 acres.
- Initial application of Open Range G at 10 lbs/ac rate utilizing ground based spreader/seeder.
 - Treatments to occur in Sept prior to germination of cool season annuals and outside of seasonally high use periods by wildlife and public.
- Treatment areas to be seeded 1-year post herbicide application (Oct –Nov).
 - Negate any residual effects to seeding.
 - Seed mix to be determined given individual site conditions
- Development and implementation of vegetation monitoring program across rangelands and individual project sites. Conducted by ODFW's Habitat Program
- Acquired herbicide and spreader/seeder for herbicide treatments



Progression

- 2017
 - Established vegetation plots & collected baseline data.
 - Treated 267 acres within Stover Pasture @ 10 lbs/ac (\$23/ac) Open Range G.
- 2018
 - Sampled/Monitored vegetation plots.
 - Seeded 2017 herbicide treatment area via range drills at rate of 12 lbs/ac.
 - Treated an adjacent 253 acres within Stover Pasture @ ~13 lbs/ac (\$29.9/ac) Open Range G.
- 2019
 - Sampled/Monitored vegetation plots.
 - Treated an adjacent 230 acres within Stover Pasture @ ~14-15 lbs/ac (\$34.5/ac) Open Range G.
 - Seed 2018 herbicide treatment area (Oct 2019) via fixed-wing aircraft



Results and Refinement

- 2017 Herbicide Treatment – 2018 Rangeland Drill Seeding
 - Herbicide treatment @ 10 lbs/ac, ~18-24 ac/hr with spreader/seeder, cost effective when compared to alternatives.
 - Incurred dramatic “release” of desirables
 - Acceptable initial control of Ventenata.

2018
Treated (left) vs Untreated (right)



2017
Stover #2

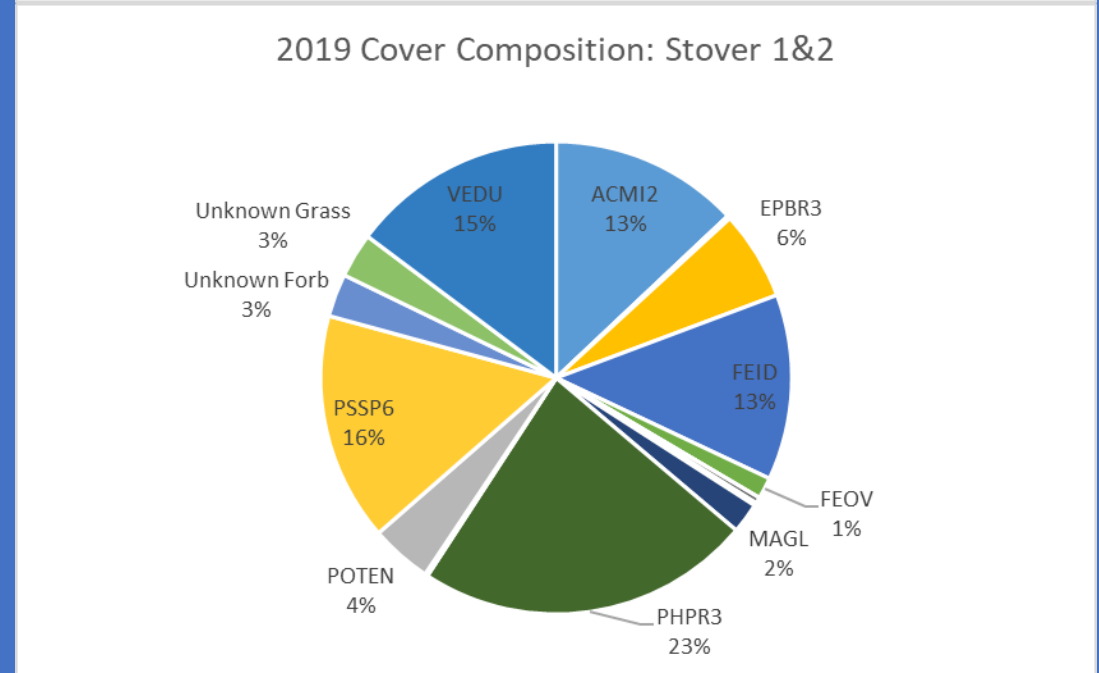
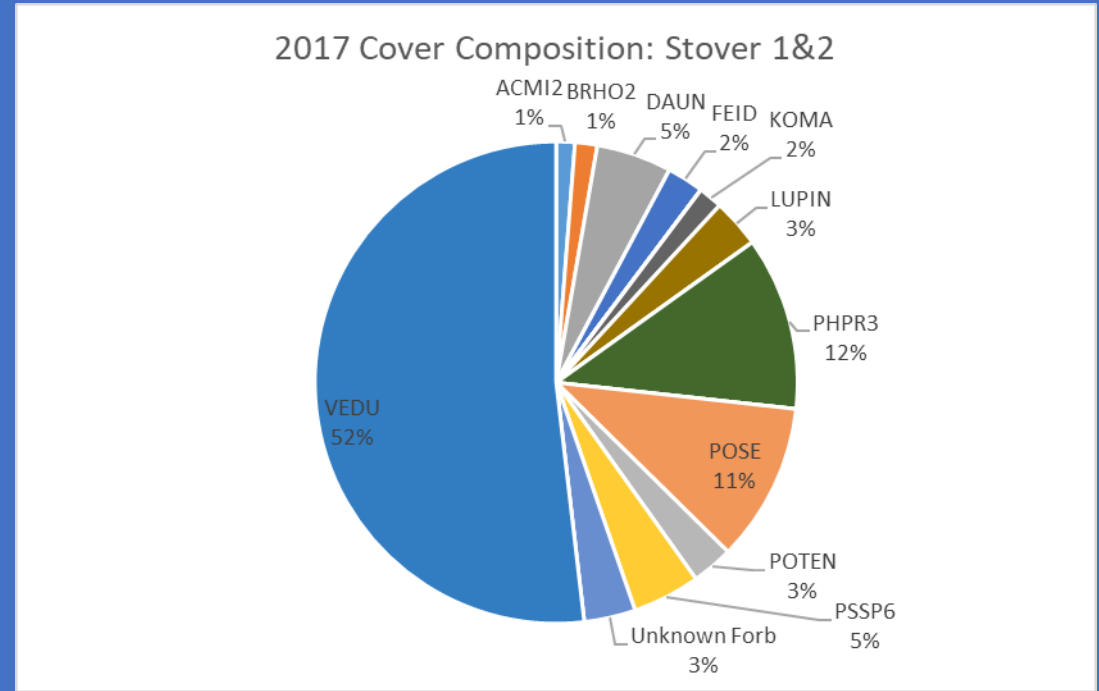
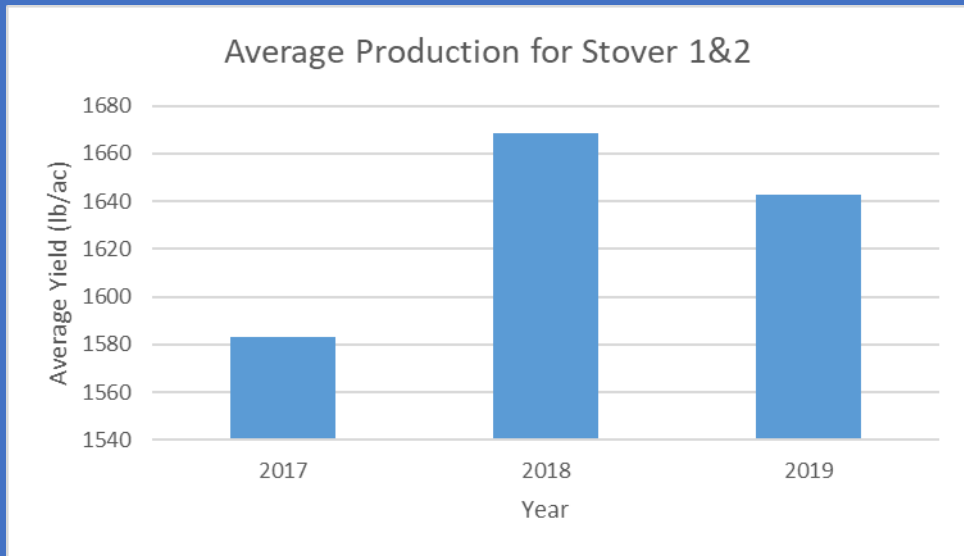


2019
Stover #2



Results and Refinement

- Vegetation Monitoring
 - Dramatic shifts in Cover and Cover Composition
 - 2018 Ventata Canopy Frequency reduced ~20% from mid 80s. Basil Frequency reduced to 5% from 16%.
 - Ventenata increasing back to pre-application in some areas and in poor soils
 - Why?.... low rate?... Seed stores?... Disturbance from range drills?...



Results and Refinement

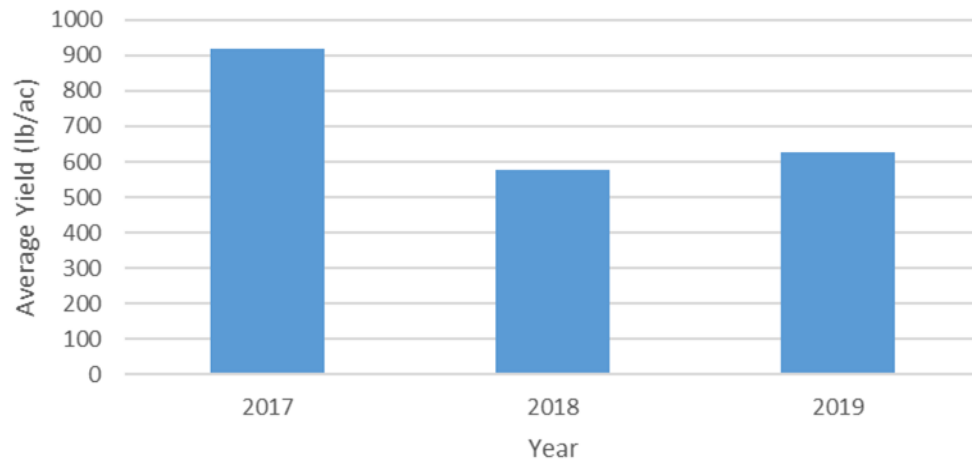
- 2018 Herbicide Treatment – 2019 Aerial Seeding
 - Given results from previous year herbicide application made at ~13 lbs/ac
 - Different site and different conditions
 - Soil type, plant community, slope, aspect, etc.
 - Aerial seed vs disturbance from Range Drills



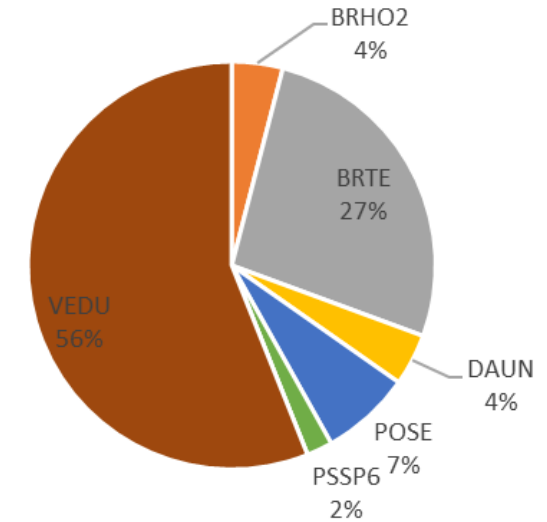
Results and Refinement

- 2018 Herbicide Treatment – 2019 Aerial Seeding
 - Vegetation Monitoring
 - More uniform and complete coverage at higher rate
 - Higher reduction in Ventenata and Cheatgrass cover but similar reductions in Cover Composition
 - Increases in Sandbergs, One-spike, and Bluebunch several fold
 - Continue to refine and move forward

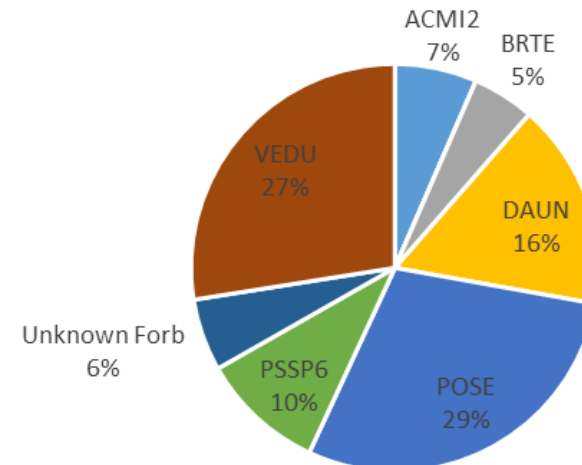
Average Production for Stover 3



2018 Cover Composition: Stover 3



2019 Cover Composition: Stover 3



Final Thoughts

- Proven to be a cost effective means to reduce Ventenata to acceptable tolerance levels and act as a site pre-treatment for seeding operations
- Product is currently rated for aerial applications and has no grazing restrictions
- Potential for Private Land Coop Projects
- Defensible Fire Barriers for Resource or Habitat Protection

Questions?

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