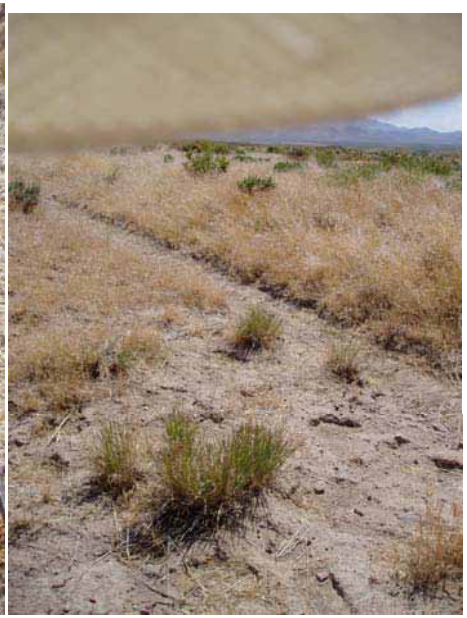
Figure 1. Pasture 5B. Spring growth, mixed stand of winterfat & Nuttall saltbush in preferred area. May 2, 2006.

Figure 2. similar community & area, May 25, 2006.

Figure 3. Pasture 5B. Inclusions of higher condition communities, May 25, 2006.

Figure 4. Pasture 5B. Area with more continuous bluegrass understory. May 25, 2006.



Figures 5 and 5a. Pasture 5B. NPFT 6S2E35. June 27, 2006. Remnant decreasers commonly grazed to level of persistent gray litter and no farther (about 60%, left). A few are periodically grazed to the crowns (right).

Figure 6. Pasture 5B. NPFT 6S2E35. September 12, 2006. Not all utilization is by permitted cattle.

Figure 7. Pasture 5B. February 4, 2007.

Figure 8. Pasture 5B. February 4, 2007.

Figure 9. Pasture 5B. Higher condition communities, broken topography. February 4, 2007.

Figure 10. Pasture 5B. January 31, 2007.

Figure 11. Pasture 5B. January 31, 2007.

Figures 12 and 12a. Pasture 5B. Winterfat/Sandberg bluegrass communities in a low cheatgrass year, fall, 1992.

Figure 13. Pasture 5B. Winterfat/Indian ricegrass communities in a wet year, 2005. Figure 14. Pasture 5B. Shadscale communities in a low cheatgrass year, fall 1992.

Figure 15. Pasture 8B. Localized severe use at waters, not typical of pasture. May 23, 2006. Figure 16. Pasture 8B. Grazed in May in 2006, good growth year. May 29, 2006.

Figure 17. Pasture 8B, NPFT 7S2E22. More typical level of use, with regrowth, June 27, 2006. Figure 18. Same location, June 27, 2001. Less cheatgrass available, low precipitation

Figures 19 and 19a. Pasture 8B, NPFT 7S2E07. Practically no available perennial grasses to measure.

Figure 20. Pasture 8B, NPFT 7S1E24, June 28, 2006. Utilization is generally less in the foothills portion of Pasture 8B and is confined to lower slopes.

Figure 21. Pasture 5B. Germination failure on cheatgrass, fall, 1992. Availability fluctuates greatly on the lakebeds portion of East Castle Creek Allotment.

Figure 22. Pasture 8BI, May 2, 2006. Phase I Plow & Seed 18 years after treatment. Figure 23. Pasture 8BI along pipeline, May 2, 2006. Grazed April 7-10 in 2006.

Figure 24. Pasture 8BI, Phase I Plow & Seed (R), 8AII (L) May 2, 2006.

Figure 25. same view, May 25, 2006. Pasture 8B was grazed in May in 2006, little use made in 8BI to allow recovery of perennial grasses from adverse growing conditions in 2002-2004.

Figure 26. Poison Creek Exclosure within Phase III Plow & Seed, NPFT 7S2E28, October 1992. Figure 27. same view, July 21, 2006.
This exclosure had been ungrazed for 25 years at the time of the 1992 photo, and ungrazed for 39 years at the time of the second photo. Most of the squirreltail that was present in the mid-1980's died out in the series of dry years in the late 1980's and early 1990's. Germination failure of cheatgrass had occurred for several years prior to the 1992 photo, both inside and outside of the Exclosure, and substantial shrub mortality was also noted. From at least 2002 through April, 2005, cheatgrass populations were again nonexistent on the lakebeds, but favorable growing conditions in the springs of 2005 and 2006 allowed them to recover. Biocrust basal cover was 9.3% and gravel basal cover was about 22% when measured in 2006. When cheatgrass is abundant, it obscures the biocrust and gravel covering of the soil surface. The Exclosure was intended to serve as a reference for natural recovery of depleted shadscale communities in this area.

Figure 28. Birch Creek Exclosure within Phase I Plow & Seed, October 1992. Figure 29. Birch Creek Exclosure within Phase I Plow & Seed, July 3, 2007.
Birch Creek Exclosure was intended as a reference for natural recovery of depleted Wyoming big sagebrush communities in foothill basins. Both were built in 1967.

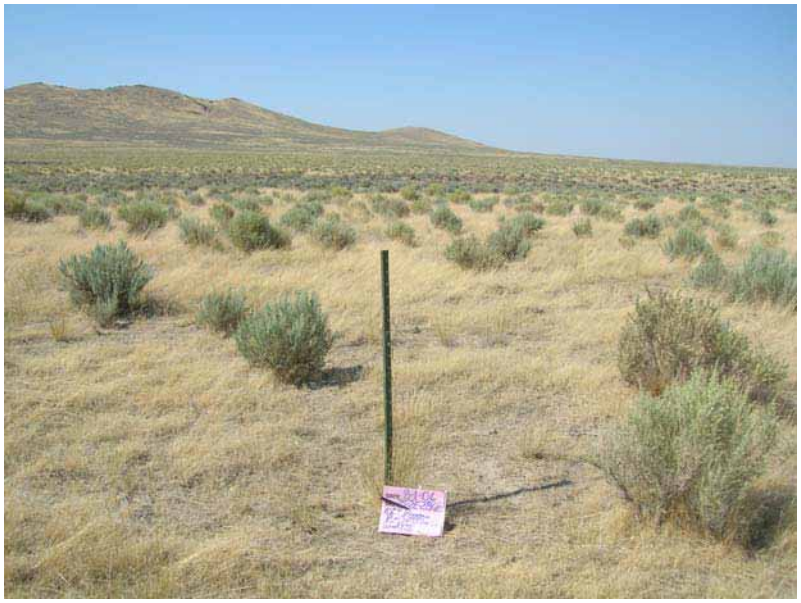


Figure 30. Pasture 8BIII, Phase III Plow & Seed, NPFT 7S2E28GE August 1, 2006. **Figure 31. Pasture 8BIII, Phase III Plow & Seed, NPFT 7S2E28GE August 1, 2006.**

A small amount of April use was authorized in Pasture 8BIII with livestock removal to occur prior to the critical growth period for crested wheatgrass. Full stands of crested wheatgrass are now patchy within the plowed area, and Pasture 8BIII also includes substantial areas of untreated native range.

Figure 32. Pasture 8BIII, Phase III Plow & Seed, August 1, 2006. **Figure 33. Pasture 8BIII, Phase III Plow & Seed, NPFT 7S2E32GG August 1, 2006.**

Figure 34. Pasture 8BIII, Phase III Plow & Seed, NPFT 7S2E32GG August 1, 2006. Figure 35. same location, June 27, 2001. Poor growth year, severe utilization.

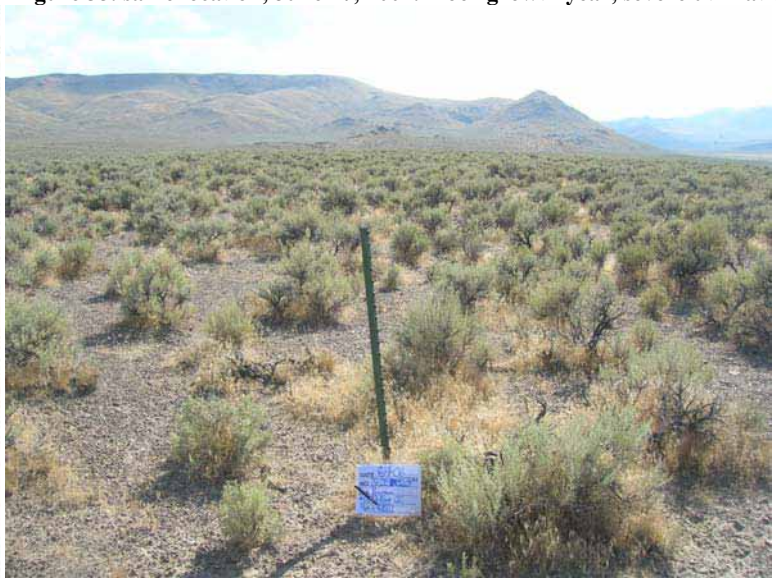


Figure 36. same location, June 27, 2001. Poor regrowth after grazing, low vigor. Figure 36. NPFT 7S2E32GF, August 1, 2006. Untreated inclusion, comparison study. Very few perennial grasses present or available for grazing. Sparse cheatgrass associated with shrub hummocks.

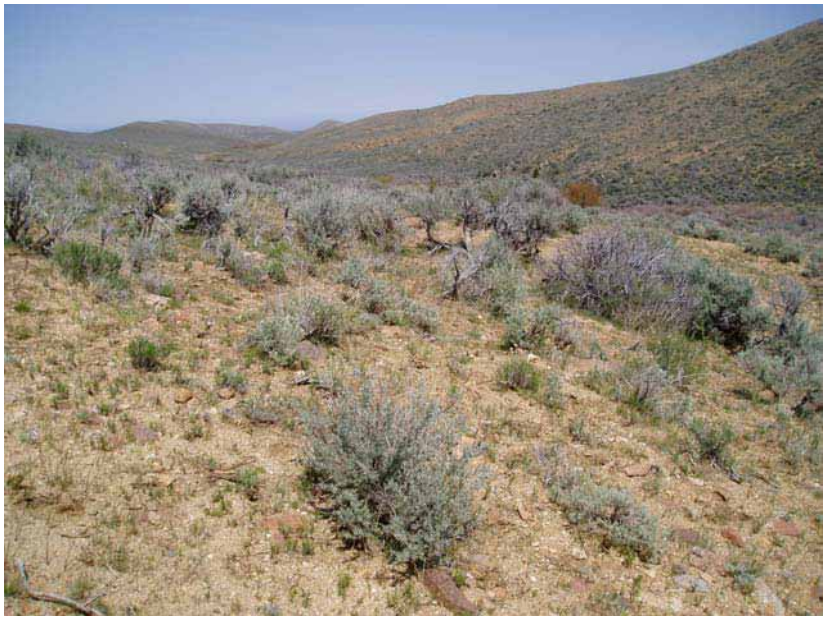


Figure 37. Pasture 10B along Birch Creek, May 2, 2006. Pasture 10B was grazed along from April 11-30 in 2006.

Figure 38. Birch Creek, looking downstream, June 14, 2006. Practically all cattle use occurs Birch Creek and the bottom of Poison Gulch, where water is available.

Figure 39. Pasture 10B along Birch Creek at 11B gate, June 14, 2006.

Figure 40. same location, with severe use of stream terrace, June 28, 2001.

Figure 41. Pasture 10B (L) along Birch Creek at 11B gate, June 14, 2006. Little utilization of uplands documented.

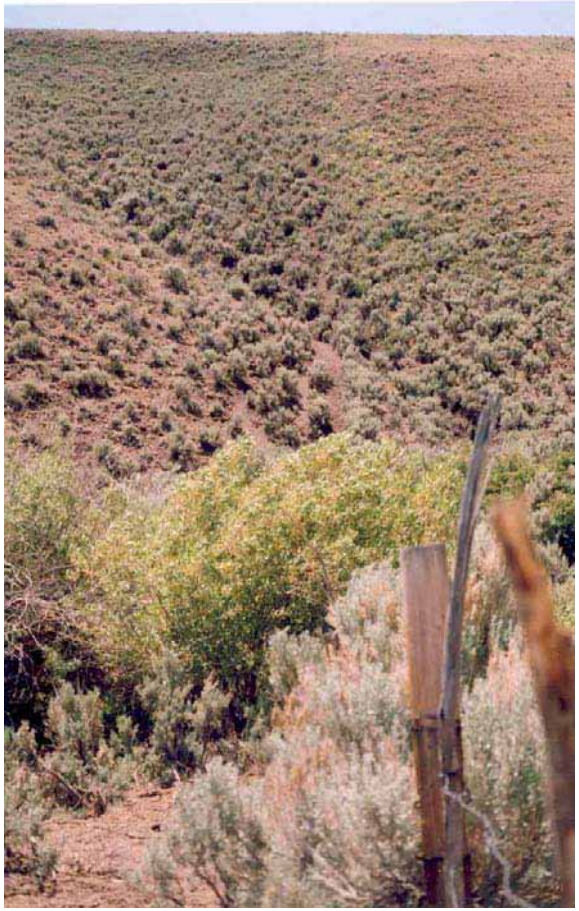


Figure 42. same location, June 28, 2001.

Strong fenceline contrast has developed at upper end of Pasture 10B since fence installed in 1971. Evidence of strong recovery on uplands in Pasture 11B, less marked on 10B side. The fence was installed to delay turnout on the right side of the fence (11B) until June 1 each year. That grazing practice was implemented in 1971 and was in effect through 2004.

Another fence was installed in 1986 that delayed turnout in Pasture 10B (L) until May 1 each year. That grazing practice was implemented in a less formal manner, but was also in effect through 2004. In addition, a 4 inch stubble height Term and Condition for Birch Creek had been imposed on the grazing permits for both pastures in February 1997. The 2004 Settlement further modified grazing practices in both pastures.

Figure 43. Pasture 11B along Birch Creek just above 11B gate, June 14, 2006.

Figure 44. Pasture 11B along Birch Creek at 11B gate, June 28, 2001.

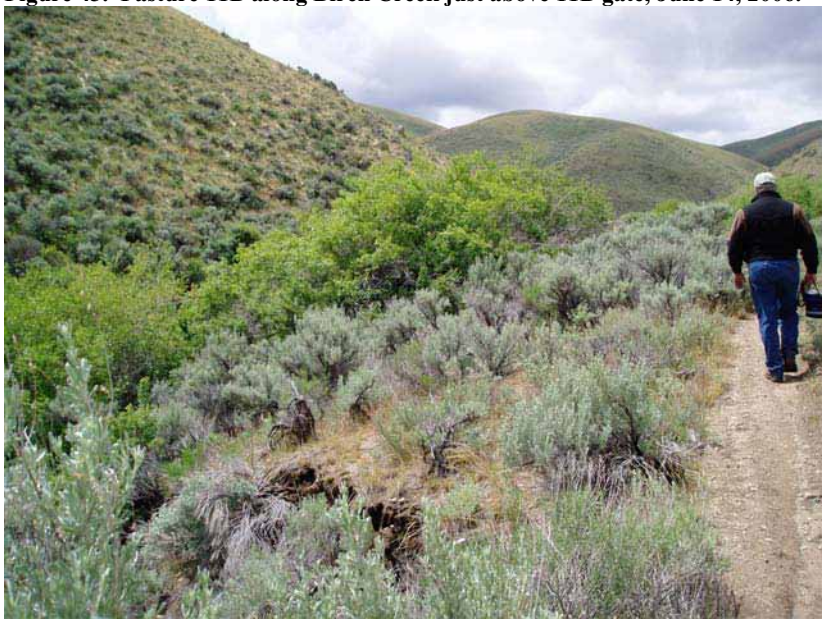
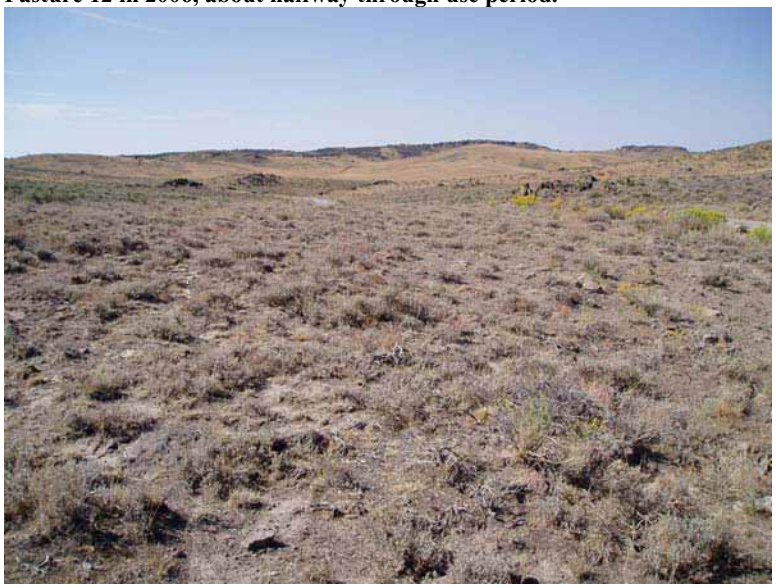


Figure 45. Pasture 11B along Birch Creek, June 14, 2006. Pasture 11B was rested in 2006 under the 2004 Settlement. Any use would be apparent on this stream terrace.

Figure 46. Pasture 12, NPFT 8S1E02, June 13, 2006. All late spring use was in Pasture 12 in 2006, about halfway through use period.

Figure 47. Pasture 12, upper end, August 30, 2006. Utilization tends to be heavier at the upper end because cattle tend to move upslope in spring.



Figures 48 and 49. Pasture 12, upper end, along Rough Mountain Drift Fence, August 30, 2006. Fence was installed in 1948 to eliminate spring use of present-day summer pastures.

Figure 50. Pasture 28 (R), looking into S. Fk. Castle, September 15, 2006.

Figure 51. Pasture 28 at east end, September 15, 2006. Shallower, gravellier surface soils. Sandberg bluegrass predominates on the shallower soils instead of fescue.

Figure 52. Pasture 28, NPFT 8S1W28, September 15, 2006. Texture, stoniness of surface soils vary. Deeper, finer soils on this low sagebrush trend site, 20-30%.

Figure 53. Pasture 28, eastern portion, September 15, 2006. Mountain mahogany inclusions can be grazed selectively when used for shade by cattle.

Figure 54. Pasture 28, S. Fk. Castle canyon, September 15, 2006. very little use. Figure 55. Pasture 28, Antelope Ridge Rd, trough on Anthill P/L system, September 15, 2006. Heaviest use is around troughs and natural waters at Rock Spring, Station Spring, and Rat Spring.

Figures 54 and 55. Pasture 28, big sagebrush communities are preferred, with 50-60% utilization of Idaho fescue and bluebunch wheatgrass, August 23, 2006. Mountain big sagebrush communities often contain some low sagebrush plants and some small inclusions where low sagebrush dominates.

Figure 56. Pasture 28, 50-60% utilization in big sagebrush, August 23, 2006.

Figure 57. Pasture 28, bitterbrush was selectively grazed, 70-80%, August 23, 2006.

Figure 57. Pasture 28, Severe use at natural watering points that are still outside of exclosures, August 28, 2006.

Figure 58. Pasture 28, 50-60% utilization in big sagebrush, west end of pasture looking into Rock Creek, August 28, 2006.

Figure 59. Pasture 28, 20-30% use in some mixed communities, west end of pasture, August 28, 2006.

Figure 60. Pasture 28, localized 70% use in associated dry drainage bottoms, west end of pasture, August 28, 2006

Figure 61. Pasture 28, west end, very localized surface water, August 28, 2006.

Figure 62. Riparian Pasture 29D, dry meadow, August 30, 2006.

Figure 63. Riparian Pasture 29D, wet meadow, grazed for 6 days in June, August 30, 2006.

Figure 64. Riparian Pasture 29D, utilization nil on uplands, August 30, 2006.

Figure 65. Riparian Pasture 29D, upper Battle Creek, grazed for 6 days in June, August 30, 2006.

Figure 66. Riparian Pasture 29D, upper Battle Creek, grazed for 6 days in June, August 30, 2006.

Figure 67. Riparian Pasture 29C, upper Battle Creek, rested, August 30, 2006.

Figure 68. Battle creek Exclosure (L), upper Battle Creek, August 30, 2006.

Figure 69. Pasture 29A (L), Riparian Pasture 29C (R), rested, August 30, 2006. **Figure 70. Riparian Pasture 29C (L), rested in 2006, FFR Pasture 29 (R), August 30, 2006.**

Figure 71. Pasture 29A (L), Riparian Pasture 29D (R), August 30, 2006.

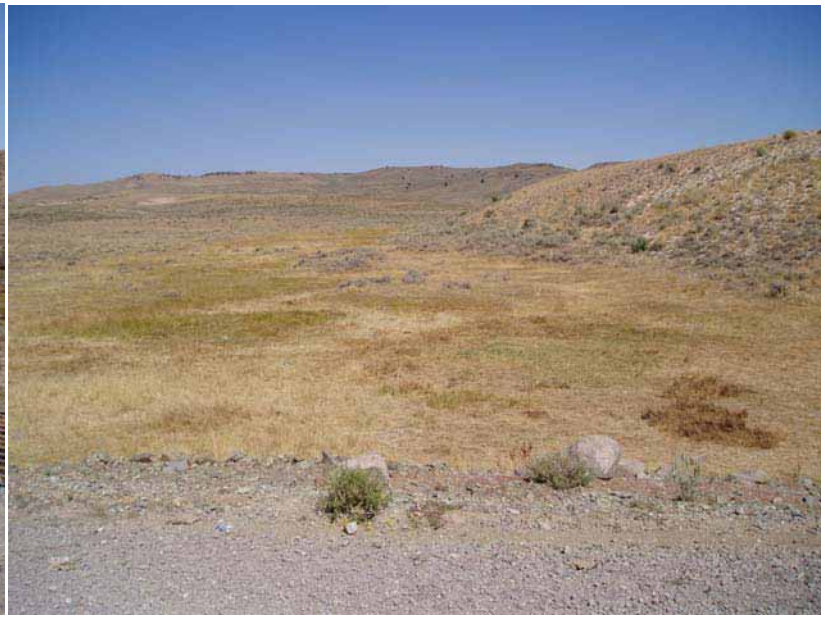


Figure 72. Pasture 29A, small meadows that were proposed for inclusion in 29N, August 30, 2006.

Figure 73. Pasture 29A (L), FFR Pasture 13 (R), August 30, 2006.

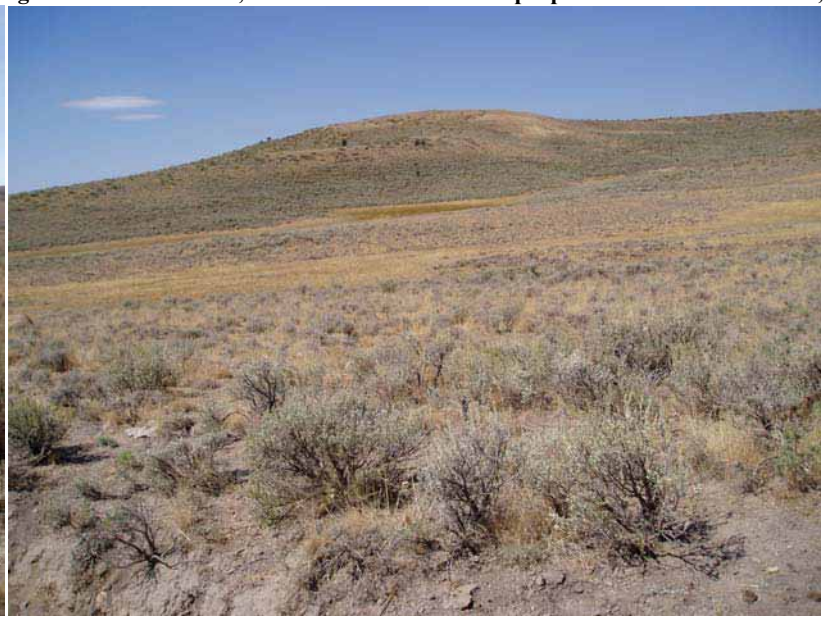


Figure 74. Pasture 29A, small meadows that were proposed for inclusion in 29N, August 30, 2006.

Figure 75. Pasture 29A, at junction with Castle Creek road, August 30, 2006. **Figure 76. same location, looking toward Battle Creek Well Exclosure, August 30, 2006.**

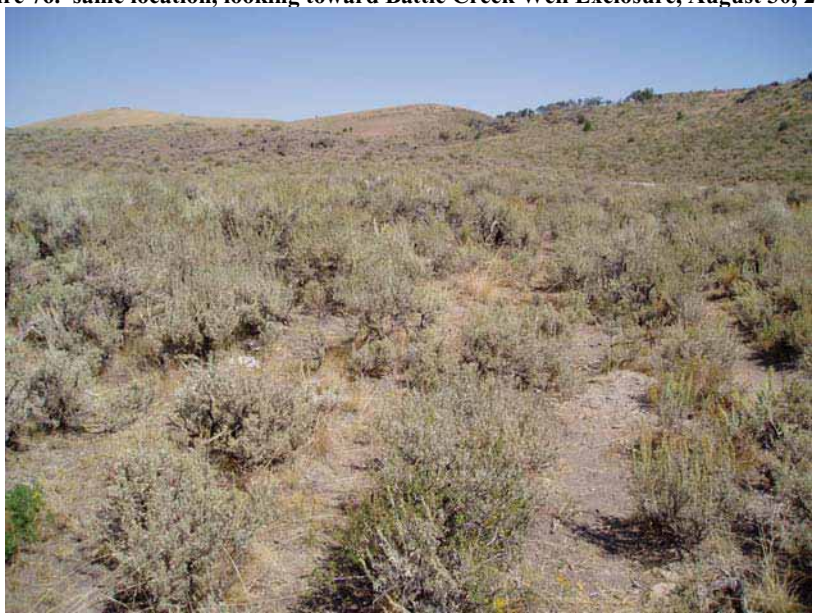


Figure 77. same location, very little use of preferred species outside Exclosure in 29A. **Figure 78. Battle Creek stream terrace in Pasture 29A, August 30, 2006. Mountain big sagebrush and wet meadow communities are preferred for grazing under summer use, stands degraded historically, but low utilization in 2006.**

Figure 79. Pasture 29A, looking toward Battle Creek from gate into FFR Pasture 29, August 30, 2006.

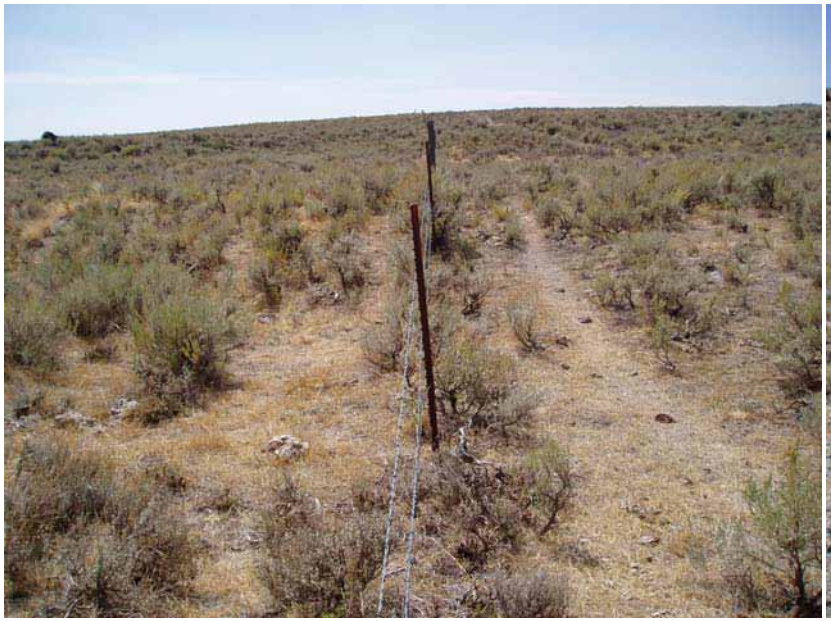


Figure 80. Pasture 29B (L), FFR Pasture 29 (R), August 30, 2006.

Figure 81. Battle Creek channel and stream terrace in Pasture 29B, August 30, 2006.

Figure 82. looking from FFR Pasture 29 into Paws Water exclosure, August 30, 2006.

Figure 83. Pasture 29B (L), Paws Water (R), August 30, 2006.

Paws Water is a management exclosure that provides a water source for surrounding pastures, including FFR Pasture 29 and Pasture 29B.

Figure 1. Pasture 10B (R), 8B (L), May 31, 2007.

Figure 2. Pasture 10B, Poison Gulch Pipeline, May 31, 2007. Most of the use in 10B occurs on stream terraces and bottoms of alluvial basins along Birch Creek and Poison Gulch. Livestock water is more limiting in Poison Gulch, and is limited to the output of a few springs.

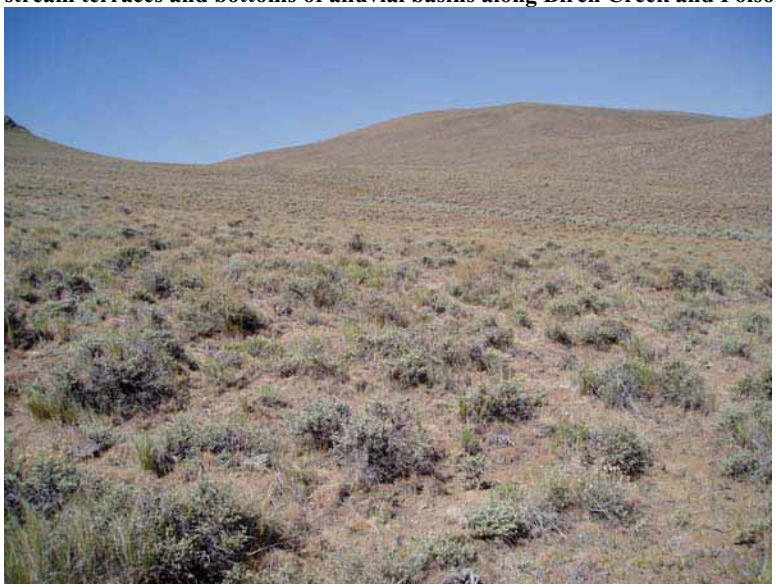


Figure 3. Pasture 10B, NPFT 07S01E22, May 31, 2007.

Figure 4. Pasture 10B, upper edge of Poison Gulch, May 31, 2007, grazed in May this year.

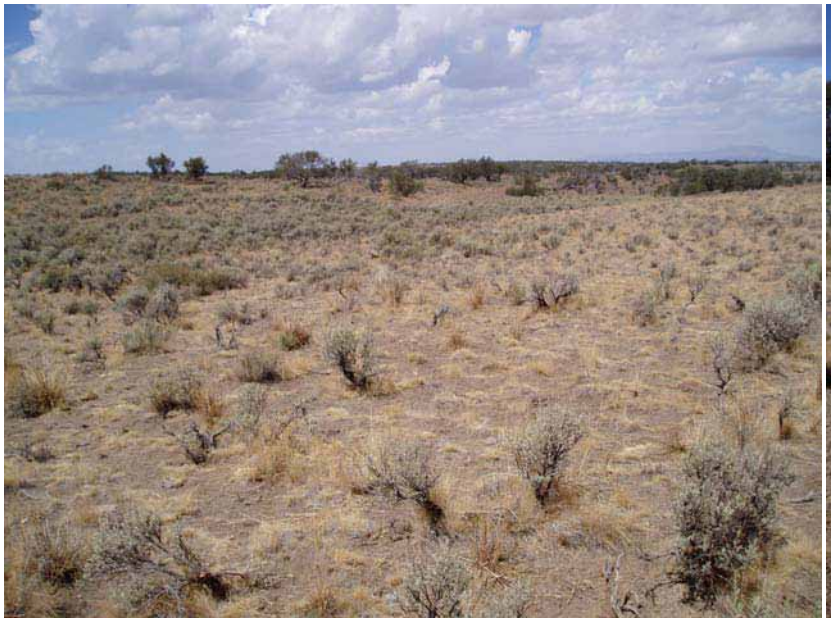


Figure 5. Pasture 28, September 4, 2007, grazed in August this year.

Figure 6. Pasture 28, September 4, 2007. Mountain big sagebrush and mahogany communities are usually preferred for grazing, particularly near pipeline troughs or natural water sources.

Figure 7. Pasture 28, September 4, 2007.

Figure 8. Pasture 28, September 4, 2007. Low sagebrush communities are less preferred.

Figure 9. Pasture 28, September 4, 2007. Big and low sagebrush communities may be intermingled in some locations. Sandberg bluegrass is more prevalent on low sagebrush inclusions.

Figure 10. Pasture 28, September 4, 2007.