

Initial Assessment of Several Drainages in LaBarge Creek Allotment

Wildlife Habitat

Don DeLong

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Greys River

(Greys River and its Riparian Zone, and Side Drainages, except Poison Meadows)

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 90% of forestland in the upper Greys River watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 50-60%).
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement.
- Approximately 90% or more of big sagebrush and mountain shrubland vegetation types are in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%).

These conditions have resulted in (1) a major shortage of young and middle age forest and rangeland plant communities; (2) a decline in the amount of several non-conifer forestland habitats; and (3) an overall decline in herbaceous production in the area. This, in combination with several other factors, has resulted in considerably less herbaceous vegetation being available to wildlife and livestock on the allotment.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Rest may need to be periodically provided to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In section 32 (side drainage of Greys River, on east side, directly east of warming hut), herb retention was $\geq 90-95\%$ in $\geq 95\%$ of moist meadow habitat seen.

In late 2008, 2009, or 2010, herbaceous retention in this same area was substantially lower. It was not uncommon to see 1-2" stubble height. Overall retention is not known, but patches of $\leq 40-60\%$ retention was not uncommon in moist meadow habitat.

Wet Meadow and Spring Habitat — Only a few sedge meadows were observed, but they all had $\geq 90-95\%$ herb retention.

Riparian Willow Habitat — None inspected, but they likely had very high herb retention.

Mountain Big Sagebrush and Grassland Habitat — $\geq 90-95\%$ herb retention on $\geq 95\%$ of sites.

Other Habitats — n/a

Upshot of Problem(s) — No apparent problems in 2015.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown, but based on herbaceous retention levels in moist meadows of section 32, impacts to water quality in 2015, if any, likely were immeasurable.

In 2008, 2009, or 2010 when herbaceous retention levels were much lower, the potential would have been higher for water quality to have been reduced, especially in isolated pools.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle trampling bird nests would be very low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the Greys River area prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July or early August.

Potential exists for metamorph and adult boreal toads to be trampled, if any breeding is occurring in the area. One adult boreal toad was found in this area (incidental observation; no formal inventories have been conducted), it is near known breeding habitat (LaBarge drainage), and capable breeding habitat exists. The timing of cattle use of this area coincides with the timing of boreal toad

metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat).

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — Given the low utilization of the area by cattle in 2015, there likely was low potential for this, but in other years when utilization is considerably higher, the potential for accelerated drying of small pools (e.g., small amphibian breeding wetlands) would be elevated, although the degree would be difficult to estimate. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools. Fenced exclosures is another option.

Poison Meadows

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment. Much of this assessment is similar to that of the “Greys River,” above.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 90% of forestland in the upper Greys River watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 50-60%).
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement.
- Approximately 90% or more of big sagebrush and mountain shrubland vegetation types are in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%).

These conditions have resulted in (1) a major shortage of young and middle age forest and rangeland plant communities; (2) a decline in the amount of several non-conifer forestland habitats; and (3) an overall decline in herbaceous production in the area. This, in combination with several other factors, has resulted in considerably less herbaceous vegetation being available to wildlife and livestock on the allotment.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Rest may need to be periodically provided to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In sections 31 (Poison Meadows south of the warming hut), herb retention was ≥ 90 -95% in ≥ 90 % of moist meadow habitat seen.

However, herbaceous retention has been considerably lower in the recent past (undocumented).

Wet Meadow and Spring Habitat — Springs are fairly common in Poison Meadows, and sedge-dominated wet meadows also exist. In 2015, use of a portion of the springs (and nearby wet and moist meadow habitat) was comparatively higher than surrounding habitats. In some cases, stubble heights were < 2 ", especially where non-native bluegrasses appeared to predominate; cow dung and hoof prints were observed in the vicinity. At other springs, little if any use by cattle was observed.

Overall, herbaceous retention in wet meadow and spring habitat appeared to be ≥ 80 % in many parts of the meadow observed.

Riparian Willow Habitat — Willow habitat comprises a large proportion of riparian/moist/wet habitat in Poison Meadows. Only a small portion of willow habitat was inspected, but willow habitat likely had high herb retention in 2015 based on herbaceous retention levels elsewhere.

Mountain Big Sagebrush and Grassland Habitat — Based on sites visited, herbaceous retention appeared to be ≥ 90 -95% on ≥ 95 % of grassland areas.

Other Habitats — Similarly, herbaceous retention appeared to be very high in forb communities, which are common in Poison Meadows.

Upshot of Problem(s) — No apparent problems in 2015.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown, but based on herbaceous retention levels in moist meadows of section 31, impacts to water quality in 2015, if any, likely were immeasurable.

In other years when livestock use levels are considerably higher, the potential would be higher for water quality to be reduced, especially in springs and isolated pools.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle trampling bird nests would be very low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the Poison

Meadows prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July or early August.

Potential exists for metamorph and adult boreal toads to be trampled, if any breeding is occurring in the area. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat).

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — Given the low utilization of the area by cattle in 2015, there likely was low potential for this, but in other years when utilization is considerably higher, the potential for accelerated drying of small pools (e.g., small amphibian breeding wetlands) would be elevated, although the degree would be difficult to estimate. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools. Fenced exclosures is another option.

LaBarge Meadows

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 75-83% of forestland in the LaBarge Creek watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 40-50%). In the area of LaBarge Meadows, the proportion of forestland in late succession is $\geq 90-95\%$.
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat; the expansion may be as high as about 15%.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement.
- Approximately 85% or more of the mountain big sagebrush type in the LaBarge Creek watershed is in a mature or old-age class, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%). In the area of LaBarge Meadows, the proportion of big sagebrush in a mature or old-age class likely is $\geq 90-95\%$.

These conditions have resulted in (1) a major shortage of young and middle age forest and rangeland plant communities; (2) a decline in the amount of several non-conifer forestland habitats; and (3) an overall decline in herbaceous production in the area. This, in combination with several other factors, has resulted in considerably less herbaceous vegetation being available to wildlife and livestock on the allotment.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Providing rest must periodically be provided, as needed, to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In the lower one-third or more of LaBarge Meadows, herb retention was $\geq 80\text{-}90\%$ in $\geq 90\text{-}95\%$ of moist meadow habitat observed in 2015, and was $\geq 95\%$ in much of this.

Wet Meadow Habitat — Sedge-dominated wet meadows is abundant in the lower one-third of LaBarge Creek, and is commonly 14-18" or taller. In 2015, herb retention was $\geq 90\text{-}95\%$ in $\geq 95\%$ of wet meadow habitat in the lower one-third or more of LaBarge Meadows.

Riparian Willow Habitat — Of all riparian habitats in LaBarge Meadows, willow habitat comprises the largest percentage by far. Herbaceous retention levels were not documented in willow habitat in 2015, but they were high, probably $\geq 90\text{-}95\%$ across $\geq 95\%$ of the willow habitat.

Mountain Big Sagebrush and Grassland Habitat — Herbaceous retention in these habitats on the periphery of LaBarge Meadows was not documented in 2015, but they were high.

Other Habitats — n/a.

Upshot of Problem(s) — No apparent problems in 2015.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown, but based on herbaceous retention levels in wet and moist meadows of the lower one-third of LaBarge Meadows, impacts to water quality in 2015, if any, likely were immeasurable.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle trampling bird nests would be very low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the LaBarge Meadows prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July.

LaBarge Meadows is part of a major breeding area for boreal toads, and the timing of cattle use of this area coincides with the timing of boreal toad metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat). However, given the high herb retention levels in 2015 in lower LaBarge Meadows, few if any metamorph or adult boreal toads likely were trampled. It is possible under these circumstances, however, for a high density of

metamorphs to exist on the shoreline of a wetland that is used by cattle for watering; the likelihood in 2015 for this to have happened was likely low.

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — Because most ponds and other wetlands in LaBarge Meadows are continuously fed by the creek, there is low potential for this to happen in most situations. However, several off-channel wetlands were found in 2015 and they were dry by October 14. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis, but given the low utilization of the area by cattle in 2015, it is unlikely that drinking by cattle accelerated the drying of these wetlands to the detriment of metamorphosing tadpoles. Higher utilization levels in other years would have the potential to accelerate drying at this critical time period.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, possibly pronghorn, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools. Fenced exclosures is another option.

Little Corral Creek and Crystal Creek Area

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 75-83% of forestland in the LaBarge Creek watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 40-50%). In the area of Little Corral Creek and Crystal Creek, the proportion of forestland in late succession is $\geq 90-95\%$.
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat; the expansion may be as high as about 15%.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement.
- Approximately 85% or more of the mountain big sagebrush type in the LaBarge Creek watershed is in a mature or old-age class, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%). In the area of Little Corral Creek and Crystal Creek, the proportion of big sagebrush in a mature or old-age class likely is $\geq 90-95\%$.

These conditions have resulted in (1) a major shortage of young and middle age forest and rangeland plant communities; (2) a decline in the amount of several non-conifer forestland habitats; and (3) an overall decline in herbaceous production in the area. This, in combination with several other factors, has resulted in considerably less herbaceous vegetation being available to wildlife and livestock on the allotment.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Providing rest must periodically be provided, as needed, to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In the Little Corral Creek and Crystal Creek area in October 2015, herb retention was variable, depending on the specific area:

- Little Corral Creek — Herbaceous retention was highly variable in 2015, and was mostly high.
- Crystal Creek — Most of the moist meadow at the edge of “Crystal Creek wetlands” (adjacent to the road) had an estimated 30-40% herb retention (bluegrass) or 40-60% herb retention (tufted hairgrass, etc.).
- Southeast of Crystal Creek — Some tufted hairgrass/sedge/timothy sites had 30-40% herb retention (stubble of 1-2” including regrowth), while other sites had 50-60% herb retention, and herb retention was as high as approx.. 80% on other sites. Some sites dominated by non-native bluegrass had stubble heights of <1-2” (30-50% herb retention).

Wet Meadow Habitat — Sedge-dominated wet meadows is abundant in the lower one-third of LaBarge Creek, and is commonly 14-18” or taller. In 2015, herb retention was $\geq 90-95\%$ in $\geq 95\%$ of wet meadow habitat in the lower one-third or more of LaBarge Meadows.

- Little Corral Creek — Herbaceous retention in sedge communities was variable, but appeared to mostly be $>70\%$.
- Crystal Creek — herb retention in “Crystal Creek wetlands” (adjacent to road) was $\geq 90-95\%$ across $\geq 95\%$ of the wetland.
- Southeast of Crystal Creek — Variable from $\geq 90-95\%$ herb retention on some wet meadow sites down to as low as 50-70% herb retention.

Riparian Willow Habitat — Willow habitat was not assessed, but retention levels generally were higher than in moist meadow and wet meadow habitats. However, signs of trailing by cattle through willows was prevalent.

Mountain Big Sagebrush and Grassland Habitat — Herbaceous retention in these habitats was not documented in 2015, but they were relatively high. Given the large amount of plant material observed while driving and walking, and high proportion of seedheads that remained, it is likely that herb retention was $\geq 90-95\%$ across $>90-95\%$ of the mountain big sagebrush and grassland types in this area.

Other Habitats — n/a.

Upshot of Problem(s) — Although not assessed, there did not appear to be any problems with herbaceous retention in willow and mountain big sagebrush communities in this area in 2015. Herbaceous retention was variable in moist meadow and wet meadow communities in this area. Nonnative bluegrass sites had relatively low herbaceous retention (e.g., 30-50%) in many places, but many tufted hairgrass-dominated and most wet meadow sites had $\geq 70\%$ herbaceous retention, although proportions of each type were not assessed. It is possible that herbaceous retention levels of

<70% encompasses >20-30% of moist meadow habitat in the area, but this assessment should be done at the pasture level (at the pasture level, there appeared to be $\geq 70\%$ herbaceous retention across $\geq 70\%$ -80% of each habitat grouping). Low retention levels in wet meadow sites was localized.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle trampling bird nests would be very low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the Crystal Creek and Little Corral Creek area prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July.

Crystal Creek and Little Corral Creek are within or near a major breeding area for boreal toads, and boreal toads are occasionally observed. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat). With the variable herbaceous retention levels in riparian zones, there likely was a mixed potential for toads to be trampled in this area. It is possible under these circumstances for a high density of metamorphs to exist on the shoreline of a wetland that is used by cattle for watering, which has the potential to result in large die-offs (relatively low probability, but high magnitude of impacts if/when it occurs).

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — Because most ponds and other wetlands in the area are continuously fed by creeks, there is low potential for this to happen in most situations (e.g., beaver ponds). However, where off-channel wetlands exist, potential exists for impacts to occur. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, possibly pronghorn, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools. Fenced exclosures is another option.

Trail Creek

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 75-83% of forestland in the LaBarge Creek watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 40-50%). However, a large portion of forestland in the Trail Creek area is now in early succession, meaning there likely is no shortage of early seral forestland in this area.
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat; the expansion may be as high as about 15%. However, the 2012 Fontenelle Fire likely reduced this expansion in the Trail Creek area.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement. To the extent aspen stands in the Trail Creek area were burned in the 2012 Fontenelle Fire, conifer encroachment in aspen stands was at least partially remedied.
- Approximately 85% or more of the mountain big sagebrush type in the LaBarge Creek watershed is in a mature or old-age class, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%). Because the Fontenelle Fire burned very little in the mountain big sagebrush type, most of the mountain big sagebrush type in the Trail Creek area likely remains in a mature or old-age class.

These conditions maintain (1) a shortage of young and middle age rangeland plant communities in the area.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Providing rest must periodically be provided, as needed, to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In the lower part of Trail Creek (the only part of the creek that was walked), moist meadow and silver sagebrush communities were mostly narrow and small, although some larger meadows exist. Herb retention in these communities was variable in October 2015. It ranged from $\geq 90\%$ in some places to $\geq 80\%$ (e.g., slender wheatgrass/brome), to as low as 30-40% in at least some bluegrass communities. Herb retention in one of the larger meadows near the confluence with LaBarge Creek was 50-60% (overall), including grazed and ungrazed patches.

Wet Meadow Habitat — Sedge-dominated wet meadows in lower Trail Creek typically is comprised of thin strips of habitat, except at the lowest portion of the creek near the confluence with LaBarge Creek. Herb retention in 2015 ranged from as low as about 70% to near-100%.

Riparian Willow Habitat — Herb retention in willow habitat was not assessed, but retention levels generally were higher than in moist meadow and wet meadow habitats, but there were places where it may have been as low as 50-60%. However, signs of trailing by cattle existed as well.

Mountain Big Sagebrush and Grassland Habitat — Herbaceous retention in 2015 was mostly >90-95%, but there were a few small places where it was as low as about 70%.

Other Habitats — n/a.

Upshot of Problem(s) — An insufficient proportion of Trail Creek was assessed, but there were no apparent problems with herbaceous retention at the lower end of this creek in 2015.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle to trample bird nests may be low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the Trail Creek area prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July. However, because it is not uncommon for cattle in the allotment to move among pastures through the season, and because Trail Creek is near the fence between Pastures 2 and 3 (which has breaks in it), cattle have the potential to graze this area prior to scheduled moves into Pasture 3, which brings with it the potential for ground nests and nests low in shrubs to be trampled. Only a small number of nests would have the potential to be trampled in this area.

The Trail Creek area is within or near a major breeding area for boreal toads, and it has potential to be used for migrations and summer use by adults. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat). With the variable herbaceous retention levels in riparian zones, there likely was a mixed potential for toads to be trampled in this area, but the overall potential likely was low.

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — No wetlands were observed that could potentially be used for breeding, but it is unknown whether small wetlands exist in the mid to upper reaches of this creek.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, possibly pronghorn, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools.

Making sure all fences are on the term grazing permit, make sure maintenance schedule is in place, and make sure the permittee is maintaining the fences and associated structures to keep cattle from moving across them from pasture to pasture. Determine if there are other, unfenced places where cattle are moving between pastures, and identify corrective measures.

Nameless Creek

This is a very preliminary assessment. Range, hydrology, and fisheries, analyses will be needed to complete this assessment.

General Habitat Conditions / Processes (in specified area, and relative to larger geographic scales)

General Assessment and Potential Problems

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat —

- Approximately 75-83% of forestland in the LaBarge Creek watershed is in late succession, which is considerably higher than the estimated proportion under natural conditions (as low as about 40-50%). However, a large portion of forestland in the Nameless Creek area is now in early succession, meaning there likely is no shortage of early seral forestland in this area.
- Conifer forestland appears to have expanded into meadows, mountain big sagebrush habitat, and other non-forested habitat; the expansion may be as high as about 15%. However, the 2012 Fontenelle Fire likely reduced this expansion in the Nameless Creek area.
- The proportion of aspen stands with high numbers and cover of conifer trees has increased substantially since prior to Euro-American settlement. To the extent aspen stands in the Nameless Creek area were burned in the 2012 Fontenelle Fire, conifer encroachment in aspen stands was at least partially remedied.
- Approximately 85% or more of the mountain big sagebrush type in the LaBarge Creek watershed is in a mature or old-age class, which is considerably higher than the estimated proportion under natural conditions (as low as about 30%). Because the Fontenelle Fire burned very little in the mountain big sagebrush type, most of the mountain big sagebrush type in the Nameless Creek area likely remains in a mature or old-age class.

These conditions maintain (1) a shortage of young and middle age rangeland plant communities in the area.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Information will be needed from the hydrologist to make assessments related to wildlife habitat...

Potential Management Actions

Mix of Succession Stages and Conifer Expansion, and Implications to Herbaceous Habitat — Adding the following provisions to the LaBarge Creek Allotment Management Plan (and AOIs) would address the above problem to some degree:

- Providing rest must periodically be provided, as needed, to accommodate or support prescribed burning, wildland fire use, and possibly other vegetation treatments designed to restore properly-functioning conditions and age-class mixes in several vegetation types. One season of rest may be needed prior to prescribed burning to build adequate fuels, and livestock typically should be kept off burned sites for one to two growing seasons after a fire. The Forest Service will coordinate with the permittees whenever rest is needed.
- The permittee should be made aware that occasional changes in livestock management may be needed to accommodate the management of lightning-strike fires managed for resource benefit.

Extent of Riparian and Wetland Habitat Across Valley Bottoms — Forthcoming, if needed...

Plant Species Composition

General Assessment and Potential Problems

Forthcoming...

Potential Management Actions

Forthcoming...

Herbaceous Retention for Wildlife Habitat

General Assessment and Potential Problems

Moist Meadow and Silver Sagebrush Habitat — In the lower part of upper half of Nameless Creek (the only part of the creek that was walked), moist meadow and silver sagebrush communities are intermixed with willow habitat and are relatively narrow, although some larger meadows exist. Herb retention in these communities was variable in October 2015. It ranged from $\geq 90\%$ in some places to $\geq 80\%$ (e.g., slender wheatgrass/brome), to as low as 30-40% in at least some bluegrass communities. Herb retention in one of the larger meadows near the confluence with LaBarge Creek was 50-60% (overall), including grazed and ungrazed patches.

At a 2015 plot on a nonnative bluegrass site in which percent retention and Robel pole readings were estimated and measured (respectively), percent herb retention was an estimated 60-69% on 7-15-2015 and was an estimated 40-59% on 9-1-2015, and 26%, 35%, and 0% of 4m, 1m, and 0.5m Robel pole readings (visual obstruction) were retained, respectively. If Robel pole readings were taken prior to the grazing season, percent retention would have been considerably lower for the 4m and 1m heights.

At a 2014 plot on a moist meadow site in which percent retention and Robel pole readings were estimated and measured (respectively), percent herb retention was an estimated 40-59%, and 41%, 28%, and 30% of 4m, 1m, and 0.5m Robel pole readings (visual obstruction) were retained, respectively.

The 2014 and 2015 plots reflected the more heavily grazed moist meadow habitat along the portion of the creek that was walked. There were patches that were not grazed as heavily.

Wet Meadow Habitat — Sedge-dominated wet meadows in lower Trail Creek typically is comprised of thin strips of habitat, except at the lowest portion of the creek near the confluence with LaBarge Creek. Herb retention in 2015 ranged from as low as about 70% to near-100%.

At a 2015 plot on a sedge site in which percent retention and Robel pole readings were estimated and measured (respectively), percent herb retention was an estimated 70-79% on 7-15-2015 and was an estimated 40-59% on 9-1-2015, and 24%, 16%, and 26% of 4m, 1m, and 0.5m Robel pole readings (visual obstruction) were retained, respectively. If Robel pole readings were taken prior to the grazing season, percent retention would have been considerably lower.

At a 2014 plot on a sedge site in which percent retention and Robel pole readings were estimated and measured (respectively), percent herb retention was an estimated 70-79%, and 52%, 34%, and 31% of 4m, 1m, and 0.5m Robel pole readings (visual obstruction) were retained, respectively.

Riparian Willow Habitat — Herb retention in willow habitat was not assessed, but retention levels generally were higher than in moist meadow. Signs of trailing by cattle was noted.

Mountain Big Sagebrush and Grassland Habitat — Little mountain big sagebrush habitat exists in Nameless Creek watershed.

Other Habitats — n/a.

Upshot of Problem(s) — Although not assessed, there did not appear to be any problems with herbaceous retention in willow communities in this area in 2015. Herbaceous retention was variable in moist meadow and wet meadow communities in this area. Nonnative bluegrass sites had relatively low herbaceous retention (e.g., 20-39 to 40-59%) in many places, but some tufted hairgrass-dominated and most wet meadow sites had relatively high herbaceous retention. It appears that herbaceous retention levels of <70% encompasses >20-30% of moist meadow habitat in the Nameless Creek area, but this assessment should be done at the pasture level (at the pasture level, there appeared to be $\geq 70\%$ herbaceous retention across ≥ 70 -80% of each habitat grouping). Low retention levels in wet meadow sites was localized.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit.

Other Habitat and Survival Elements

General Assessment and Potential Problems

Water Quality — Unknown.

Potential for Trampling (bird nests; metamorph and adult amphibians) — The potential for cattle to trample bird nests would be very low in this area because (1) cattle are not typically scheduled to arrive in the third pasture until mid August, (2) few if any cattle probably make it to the Trail Creek area prior to mid August, and (3) most nesting (ground nests and in low shrubs) likely is completed by late July.

The Trail Creek area is within or near a major breeding area for boreal toads, and it has potential to be used for migrations and summer use by adults. The timing of cattle use of this area coincides with the timing of boreal toad metamorphosis and several movements of boreal toads (e.g., juveniles from breeding pools, migrations to hibernation habitat). With the variable herbaceous retention levels in riparian zones, there likely was a mixed potential for toads to be trampled in this area, but the overall potential likely was low.

Potential for Cowbird Nest Parasitism — The potential for increased cowbird parasitism, due to the presence and grazing of cattle, is no more than negligible for the three reasons identified above for trampling of bird nests.

Accelerated Drying of Small Pools — No wetlands were observed that could potentially be used for breeding, but it is unknown whether small wetlands exist in the mid to upper reaches of this creek.

Potential for Striking Fences — No potential, given the absence of fences in this area.

Disturbance — The presence and movement of cattle and herders/dogs would have the potential to alter the distribution and habitat use of elk, mule deer, moose, possibly pronghorn, and possibly other wildlife, depending on the size of the groups of cattle, number and distribution of groups, and activities associated with herding. In 2015, given the low utilization of the area by cattle, there likely were few disturbance effects, but in other years when utilization is considerably higher, disturbance effects would be comparatively higher. However, there is little that can be done to avoid this impact since this impact occurs wherever cattle occur in wildlife habitat.

Potential Management Actions

The main applicable management action would be to revisit/determine, implement, and enforce an appropriate maximum utilization limit that would mitigate effects of livestock grazing use on water quality, trampling of amphibians, and accelerated drying of small pools.

Making sure all fences are on the term grazing permit, make sure maintenance schedule is in place, and make sure the permittee is maintaining the fences and associated structures to keep cattle from moving across them from pasture to pasture. Determine if there are other, unfenced places where cattle are moving between pastures, and identify corrective measures.

but herbaceous retention levels have been low enough in moist meadow and possibly other types in previous year such that Objective 4.7(d) and possibly other Forest Plan objectives were not met. This, however, may be acceptable since Poison Meadows is in DFC 1B