

Appendix B

Detailed Desired Future Conditions for Individual Streams

Desired Future Condition for Fridley Creek

Sensitivity level: Because of the presence of genetically pure Yellowstone cutthroat trout in Fridley Creek, the stream is considered a Class A stream with a sensitivity level I. Forest Plan implementation guidelines are higher for Class A streams in terms of habitat management goals and objectives (see Table 2). According to the implementation guidelines, all streams that support genetically pure YCT are considered Class A streams and are to be managed at a level of at least 90% of their inherent habitat potential. The 90% habitat capability is based on optimal conditions for various habitat attributes (i.e., sediment concentrations in spawning gravels, pool frequencies, pool habitat quality, streambank stability). Furthermore, because of their sensitive status, the Gallatin National Forest has adopted and applies the Land Use Implementation Strategy for westslope Cutthroat Trout for YCT populations. The Strategy ensures that land-use activities do not reduce viability of the population in question, or the species as a whole. This Strategy is viewed as being supplemental to Forest Plan Direction and stipulates that all "ongoing activities", like grazing allotments, will be implemented in a manner which results in a "beneficial impact", a "no impact" or a "may impact individuals or habitat, but will not likely result in reduced viability for the population or species" decision. The FP implementation guidance (i.e., manage habitat at a level of at least 90% of its inherent capability), serves as the reference level associated with impact determinations and effects analyses. In other words, the proposed grazing activities may not cause direct, indirect, or contribute to cumulative affects that result in habitat quality falling below 90% of the streams inherent habitat potential. It is assumed that a high level of habitat protection will result in no, or minimal effect on the population. As such, the sensitivity level for Fridley Creek is set a 90 percent.

Inherent stability: The B3 and B4 channel types in Fridley Creek are inherently very stable and riparian vegetation has low to moderate influence on bank and channel stability. The predominant riparian habitat type for Fridley Creek throughout the allotment is alder/dogwood with an inherent stability of 100%. Many reaches are dominated by overstory conifers with the understory consisting of grasses and forbs. The channel is not 100% stable even under pristine conditions. Isolated areas of erosion are caused by natural stream dynamics. A conservative stability score of 95% is given to Fridley Creek.

Similarity to DFC: Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing within the Fridley Allotment has had minimal impact on riparian vegetation, streambank or channel stability, channel form and function and overall habitat quality for Yellowstone cutthroat trout in Fridley

Creek. Existing habitat conditions, including channel and bank stability, exceed 90% of the streams inherent capability. Existing condition is considered to have a “high similarity” to its potential natural condition and its desired future condition. As such, habitat conditions in Fridley Creek meet Forest Plan Implementation guidelines for habitat quality and bank stability and the stream is currently meeting DFC. For the majority of Fridley Creek, cattle access is very limited because of topographic limitations or lack of suitable forage along the stream.

DFC summary:

1. Existing condition is high similarity
2. Desired future condition is high similarity to PNC
3. Maintain B3 and B4 channel types
4. Maintain the existing vegetative community type
5. Eighty-six feet out of every 100 feet of streambank should be stable. (.95 x .9 = 86)
6. Maintain the stream at or near Potential Natural Condition

Critical Parameters and Use Levels to meet DFC:

Because the existing condition meets the DFC, no changes in grazing management are proposed to meet DFC for reaches along Fridley Creek. No critical parameters have been identified and existing riparian utilization rates should be maintained.

Desired Future Condition for South Fork Miller Creek

Sensitivity Level: Low and intermittent streamflows preclude fish from inhabiting the South Fork of Miller Creek. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: The South Fork of Miller Creek is currently and A5 channel type, with a very high sensitivity to disturbance, very poor recovery potential, very high sediment supply, and very high streambank erosion potential. This relatively low resiliency to changes in streamflow or sediment was evident following the Fridley Fire when the channel incised and fine sediment increased. Prior to the fire, the channel was rated as an A3/A4 with cobble and gravel substrates. Riparian vegetation typically exerts negligible controlling influence on channel stability for A3/A4 channel types. The existing predominant riparian habitat type for the South Fork of Miller Creek is Kentucky bluegrass (POAPRA), however the potential community type includes a higher density of willows (SALIX/POAPRA). These community types have an inherent stability, or potential stable streambanks of 80%.

Similarity to DFC: Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing has had moderate impacts on riparian vegetation, bank stability, and channel form and function. Reviews indicate that riparian logging has influenced channel stability more than grazing. In 1997, prior to

the Fridley Fire, the South Fork met FP guidelines for channel stability and sediment filtration. However, a review of the same site in 2004 indicated that the Fridley Fire effects of increased water and sediment discharge had converted some reaches of stream from A4 to A5 with a higher percentage of fine sediments. This section had a 24-point channel stability departure above reference condition due primarily to the Fridley fire scouring and deposition. The PFC was rated as “non-functional” due to the channel fire effects. In addition, grazing and species conversion has resulted in primarily a Kentucky bluegrass habitat type, which offers less bank stability and erosional resistance. The potential community or PNC would have a higher density of riparian shrubs, (i.e., alder and dogwood) which would offer more bank protection for that channel type. As such, existing condition is considered to have a “moderate/low similarity” to its potential natural condition. Recognizing that alder/dogwood (PNC) is likely not attainable, the desired vegetative community type includes I higher density of willows (SALIX/POAPRA).

DFC summary:

1. Restore existing A5 channel with a sand dominated substrate back to A4 with predominately gravel substrates.
2. Attain a moderate similarity to PNC with primarily SALIX habitat type.
3. 60 feet out of every 100 feet of streambank should be stable. ($.75 \times .80 = .60$)
4. Move stream from a “non-functional” status to functioning at risk with an upward trend.
5. Encourage growth of conifers in adjacent riparian/upland areas for future woody debris recruitment to the channel.
6. Less than 20-point Pfankuch channel stability departures, and departures would primarily be associated with previous riparian harvest and post fire effects. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC:

Conversion of the A5 to A4 channel type will likely occur gradually as post fire streamflow and sediment affects subside. For fine sediment to accumulate in an otherwise gravel-dominated channel, the channel width would have to increase. Thus, in order to move from an A5 back to an A4 channel type, management actions that favor a reduction in channel width need to be implemented. Management that fosters growth of riparian shrubs and forbs that would trap sediment, rebuild banks, and narrow the channel should be implemented. Because A4/5 channels typically have a high percentage of unstable banks, the allowable use levels for streambank alteration will likely be met relatively soon after cattle are on the allotment. As such, the critical parameters of attaining DFC in the South Fork Miller Creek will likely be shrub utilization and streambank alteration. Reducing shrub utilization will also foster a higher density of riparian willows.

Allowable stubble height = N/A for June and July; 2” in August; 3” in September; and 4” in October.

Allowable woody utilization is “0” for all months.

Allowable forage utilization would be 30% in June' 35% in July and August' and 25% in September and October.

Desired Future Condition for North Fork of Miller Creek

Sensitivity Level: Low and intermittent streamflows preclude fish from inhabiting the North Fork of Miller Creek. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: The North Fork of Miller Creek is currently and F4 channel type, with an extreme sensitivity to disturbance, very poor recovery potential, very high sediment supply, and very high streambank erosion potential. This low resiliency to changes in streamflow or sediment is evident with long-term affects of historic riparian harvest and post Fridley Fire changes. Riparian vegetation typically exerts moderate to marginal controlling influence on channel stability because of the typically very high banks heights, which extend beyond the rooting depth of many riparian plant species. The existing predominant riparian habitat type for the North Fork of Miller Creek is Kentucky bluegrass (POAPRA), however the potential community type includes a higher density of willows (SALIX/POAPRA). These community types have an inherent stability, or potential stable streambanks of 80%.

Similarity to DFC: Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing has had low to moderate impacts on riparian vegetation, bank stability, and channel form and function. Reviews indicate that riparian logging has influenced channel stability more than grazing. The PFC for the stream was rated as “non-functional” in 2004, due primarily to riparian logging and post fire effects. Grazing and species conversion has also resulted in primarily a Kentucky bluegrass habitat type, which offers less bank stability and erosional resistance than a natural community of riparian shrubs. The potential community or PNC would have a higher density of riparian shrubs, (i.e., alder and dogwood) which would offer more bank protection for that channel type. In addition, the F4 channel likely represents the altered state of a more stable B or C type channel. Although recovery potential for an F4 channel type is poor, channels can stabilize in the form of a C channel inside the F channel. The existing condition is considered to have a “moderate/low similarity” to its potential natural condition. Recognizing that alder/dogwood (PNC) is likely not attainable, the desired vegetative community type includes both willow and Kentucky bluegrass (SALIX/POAPRA).

DFC summary:

1. Attain a moderate similarity to PNC
2. Move from an F4 channel type to a recovered C4/5/or 6 channel type within the old F4 channel.

3. Increase willow density with a desired community type of both willow and Kentucky bluegrass (SALIX/POAPRA).
4. 60 feet out of every 100 feet of streambank should be stable. ($.75 \times .80 = .60$)
5. Move stream from a “non-functional” status to functioning at risk with an upward trend.
6. Encourage growth of conifers in adjacent riparian/upland areas for future woody recruitment to the channel.
7. Less than 20-point Pfankuch channel stability departures, and departures would primarily be associated with previous riparian harvest and post fire effects. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC:

In order to increase willow density along the immediate banks, a reduction in woody utilization will be critical. Management that fosters growth of riparian shrubs should be implemented. As such, the critical parameters for attaining DFC in Golmeyer Creek are shrub utilization.

Allowable stubble height = N/A for June and July; 2” in August; 3” in September; and 4” in October.

Allowable woody utilization is 10% for June, July and August, and 0% for September and October.

Allowable forage utilization would be 40% in June; 45% in July and August; 40% in September and 35% in October.

Desired Future Condition for Miller Creek proper

Sensitivity Level: Low and intermittent streamflows preclude fish from inhabiting Miller Creek proper. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: *Miller Creek* has been heavily impacted by an adjacent road, grazing, riparian and upland timber harvesting on private lands and by the Fridley Fire. The channel is considered a G4 channel type, which is entrenched with a low width/depth ratio and no floodplain access. It is extremely sensitive to disturbance, has a very poor recovery potential, very high sediment supply and very high streambank erosion potential. Riparian vegetation has a high influence on channel stability. The existing dominant riparian vegetation community type is Kentucky bluegrass. Because of its low rooting depth and low root density, Kentucky bluegrass offers little bank stability. Under more natural conditions, the riparian habitat type was likely alder and dogwood. However, the potential habitat type now is considered to be willows and Kentucky bluegrass. For more stable channel types, these community types have an inherent stability, or potential stable streambanks of 80%. However, the inherent stability of that community type with a G4 channel is considered to much less. As such, the inherent stability is considered to be 50%.

Similarity to DFC: Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing, has had moderate to high impacts on riparian vegetation, bank stability, and channel form and function. Reviews indicate that riparian logging, channelization, and post fire effects have also cumulatively impacted the stream. Channel stability ratings in both 1997 and 2004 reveal that the stream exceeds Forest Plan standards for channel stability and sediment filtration. In addition, the PFC for the stream was rated as “non-functional” in 2004, due primarily to post fire streamflow effects and heavy grazing. Grazing and species conversion has also resulted in primarily a Kentucky bluegrass habitat type, which offers less bank stability and erosional resistance than a natural community of riparian shrubs. The existing G4 channel is in an altered state that reflects the effects of riparian harvest, channelization from an adjacent road, and overuse by cattle. Prior to road construction and riparian harvest, the channel was likely a B4 channel type. Although recovery potential for a G4 channel type is very poor, channels can stabilize if large woody debris and riparian shrubs increase. The potential riparian community or PNC would have a higher density of riparian shrubs, (i.e., willows) which would offer more bank protection for that channel type. The existing condition is considered to have a “moderate/low similarity” to its potential natural condition. Recognizing that alder/dogwood (PNC) is likely not attainable, the desired vegetative community type includes both willow and Kentucky bluegrass (SALIX/POAPRA). The long-term goal for upper reaches of Miller Creek is to manage for a moderate similarity to PNC. Grazing impacts throughout the lower most reach of Miller Creek within the allotment (i.e., the last ¼ mile reach in section 25) are less pronounced, and the channel is considered to be stable with the exception of natural influences of fire related increased streamflows. Riparian vegetation, which consists of alder and dogwood, reflects a community type more consistent with natural conditions. This reach is considered to have a moderate/high similarity to PNC.

DFC summary:

1. Attain a moderate similarity to PNC for upper reaches of Miller Creek
2. Maintain a moderate/high similarity to PNC for lower reaches that have not been impacted by grazing.
3. Stabilize the G4 channel type by increasing riparian shrub density (willows) and by increasing large woody debris frequency.
4. Increase willow density with a desired community type of both willow and Kentucky bluegrass (SALIX/POAPRA).
5. 38 feet out of every 100 feet of streambank should be stable. (.75 x .50 = .38)
6. Move stream from a “non-functional” status to functioning at risk with an upward trend.
7. Encourage growth of conifers in adjacent riparian/upland areas for future woody recruitment to the channel.
8. Less than 20-point Pfankuch channel stability departures, and departures would primarily be associated with previous channelization, riparian harvest, and post-fire effects. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC:

Management that fosters growth of riparian shrubs (willows) that would trap sediment, and reduce streambank erosion should be implemented. Because cattle are concentrated within the riparian zone, and use levels are high, shrub utilization is high. In addition, because G4 channels typically have a high percentage of unstable banks, the allowable use levels for streambank alteration will likely be met relatively soon after cattle are on the allotment. As such, the critical parameters of attaining DFC in Miller Creek will be considered to be shrub utilization and streambank alteration. Allowing large woody debris to accumulate in the channel is also considered to be a critical component necessary for channel stabilization. It is recognized that large woody debris, if allowed to accumulate in the channel, may influence the integrity of the adjacent privately owned road. As such, road maintenance related to LWD accumulations that may increase erosion of the road fill may also be a critical component that reduces recovery potential.

Allowable stubble height is N/A for June and July, 3" in August, and 4" in September and October.

Allowable woody utilization is 10% in June, July and August, and 0% September and October.

Allowable forage utilization would be 40% in June; 45% in July and August; 35% in September and 30% in October.

Because the existing condition in the lower ¼ mile reach of Miller Creek currently meets the DFC, no changes in grazing management are proposed. No critical parameters have been identified and existing riparian utilization rates should be maintained.

Desired Future Condition for Golmeyer Creek

Sensitivity Level: Low streamflows preclude fish from inhabiting Golmeyer Creek. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: Channel type for Golmeyer Creek varies between B4, C4, and E4, E5, and E6 depending on valley gradient, confinement and dominant substrates. For all channel types except B4, there is a very high sensitivity to disturbance and high streambank erosion potential. Riparian vegetation has a very high influence on channel stability. The potential vegetative community type includes both willows and sedge (SALGEY/CARROS). The inherent stability, or potential stable stream bank for that community type is 94%.

Similarity to DFC: Overall stability scores were 94 (rating of fair) and 100 (rating of poor) for two respective reaches surveyed in 1999. Geomorphic categories that resulted in reduced ratings were not related to grazing impacts and the forest plan standard of no more than 20-point departure is met. Channel stability data were

collected in reaches with “E” channel types, which are the most sensitive to grazing impacts. Existing channel types likely represent an unaltered state. Field notes state that utilization of riparian vegetation has been minimal. Although a PFC rating was not performed, based on photo interpretation a rating would likely be “Functioning at Risk” with an upward trend, with impacts primarily associated with historic riparian logging. Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing has had low to moderate impacts on riparian vegetation, bank stability, and channel form and function. Some reductions in willow density have also occurred. The existing dominant vegetative community type is sedge (CARROS), but the potential community or PNC would have both sedge and a higher density of willows (SALGEY/CARROS). The existing condition is considered to have a “moderate to moderate/high similarity” to its PNC primarily because of reduced LWD frequencies, but also because of a reduced density of willows.

DFC summary:

1. Maintain existing channel types.
2. Attain and maintain a moderate/high similarity to PNC.
3. 71 feet out of every 100 feet of streambank should be stable. ($.75 \times .94 = .71$)
4. Move stream from a “non-functional” status to functioning at risk with an upward trend.
5. Encourage growth of willows along several stream reaches by reducing woody utilization.
6. Encourage conifer growth in adjacent riparian/upland areas for future woody recruitment to the channel.
7. Less than 20-point Pfankuch channel stability departures, and departures would primarily be associated with previous riparian harvest and post fire effects. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC:

In order to facilitate channel recovery from an F4 to a C4 type, increasing willow density along the immediate banks of the stream will be critical. Thus, management that fosters growth of riparian shrubs should be implemented. Because F4 channels typically have a high percentage of unstable banks, the allowable use levels for streambank alteration will likely be met relatively soon after cattle are on the allotment. As such, the critical parameters for attaining DFC in the South Fork Miller Creek are shrub utilization and streambank alteration.

Allowable stubble height = N/A for June and July; 2” in August; 3” in September; and 4” in October.

Allowable woody utilization is “0” for all months.

Allowable forage utilization would be 30% in June, 35% in July and August, and 25% in September and October.

Desired Future Condition for the Unnamed tributary to Golmeyer in Section 34.

Sensitivity level: Low streamflows preclude fish from inhabiting Golmeyer Creek and the unnamed tributary in section 34. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: Although channel type data has not been collected, photographs depict a classic E4/E5 channel type that has been converted to a C5 channel type because of a change in width/depth ratio and sediment load as a result of streambank trampling and alteration. E4/E5 channel types have a very high sensitivity to disturbance, good recovery potential, moderate sediment supply, high streambank erosion potential, and very high riparian vegetation controlling influence. The existing community type is Kentucky bluegrass; however the potential community type is sedge (CAREX). The inherent stability, or potential stable streambank for this sedge community type is **90%**.

Similarity to DFC: Photographs of the meadow area show high utilization and significant ground disturbance. The existing community type is Kentucky bluegrass (POAPRA) and has a moderate/low similarity to PNC. The potential community type is sedge (CAREX). PFC data have not been collected; however, based on photo interpretation, the stream in the meadow reach would be rated as “non-functional” due to the severity of vegetation and soil impacts. High forage utilization rates, streambank trampling, and sediment filtration exceed forest plan standards. The DFC is to restore an E4 channel type, and attain a moderately high similarity to PNC.

DFC summary:

1. Stabilize the C5 channel type with a long-term goal of restoring the E4/E5 channel type.
2. Attain and maintain a moderate/high similarity to PNC.
3. 66 feet out of every 100 feet of streambank should be stable. ($.75 \times .90 = .66$)
4. Move stream from a “non-functional” status to functioning at risk with an upward trend.
5. Less than 20-point Pfankuch channel stability departures. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC: To achieve DFC, the stream type would have to become an E4/E5. However, it would first be necessary to stabilize the C5 in its existing condition. Because the existing C5 channel with a Kentucky bluegrass community type is currently very unstable, cattle could cause only slight additional alteration. When cattle are placed in this riparian area the allowable use levels for streambank alteration will be reached quickly. This is a stream channel that relies heavily on sediment trapped by vegetation along the stream margins to narrow the channel. Thus, stubble height at the end of the season will also be critical to accomplish this.

Allowable stubble height = N/A for June and July; 3” in August; and 4” in September and October.

Allowable woody utilization is “0” for all months.

Allowable forage utilization would be 30% in June; 35% in July; 30% in August, and 20% in September and October.

Desired Future Condition for Dry Creek

Sensitivity Level: Low streamflows preclude fish from inhabiting Dry Creek. Because the stream does not support TES species, important recreational fisheries, or other higher value attributes, it was given a Sensitivity Level II with a goal for managing for at least 75% of its potential.

Inherent stability: Channel types for Dry Creek were determined to be a B3 in section 4, C3 in the southeast corner of section 32, and an A3 channel type in the northwest quarter of section 32. Sensitivity to disturbance for those channel types is low, moderate, and high for the B3, C3, and A3 reaches respectively. Riparian vegetation exerts negligible controlling influence on channel stability for the A3 reach, moderate influence on the B3 reach, and very high influence for the C3 reach. Riparian community type is predominately alder and dogwood throughout. The inherent stability for this community type is 100%.

Similarity to DFC. Existing channel stability ratings are fair to good. Notes and photos taken during the survey suggest that cattle grazing had little to no impact on channel form and function. The PFC was rated as “functional” and the stream judged to be well within Gallatin NF channel stability and riparian filtration standards. The existing and potential community types for the stream are alder and dogwood ((ALNIC/CORSTO). The stream throughout the allotment is considered to have a moderate high similarity to PNC. The desired future condition is to maintain the existing condition with a moderate high similarity to PNC.

DFC summary:

1. Maintain existing channel types.
2. Maintain a moderate/high similarity to PNC.
3. 75 feet out of every 100 feet of streambank should be stable. ($.75 \times 100 = .75$)
4. Maintain “functional” status.

Critical Parameters and Use Levels to meet DFC:

Because the existing conditions for all reaches surveyed in Dry Creek currently meet the DFC, no changes in grazing management are proposed. No critical parameters have been identified and existing riparian utilization rates should be maintained.

Desired Future Condition for Lewis Creek

Sensitivity level: Because Lewis Creek does not support TES fish species, important recreational fisheries, other higher value attributes, and because the existing and potential stream type is B3/B3a, the stream was given a Sensitivity Level of II. The management goal for streams with a Sensitivity Level II is to manage the stream at a level of at least 80% of its potential.

Inherent stability: The B3 and B3a channel types in Lewis Creek are inherently very stable and riparian vegetation has low to moderate influence on bank and channel stability. The predominant riparian habitat type for Lewis Creek is alder and dogwood ((ALNIC/CORSTO) with an inherent stability of 100%. Overstory conifers dominate some reaches with the understory consisting of grasses and forbs. The channel is not 100% stable even under pristine conditions. Isolated areas of erosion are caused by natural stream dynamics. A conservative stability score of 95% is given to Lewis Creek.

Similarity to DFC: Based on habitat surveys, bank stability data, stream channel sensitivity analysis, and field reviews, grazing has had no impact on riparian vegetation, streambank, or channel stability, or channel form and function in Lewis Creek. Existing habitat conditions, including channel and bank stability, exceed 90% of the streams inherent capability. Some natural channel degradation and aggradation occurred following extreme streamflow during spring 1997. However, those processes are natural and existing condition is considered to have a “high similarity” to its potential natural condition and its desired future condition. As such, habitat conditions in Lewis Creek meet Forest Plan Implementation guidelines for habitat quality and bank stability and the stream is currently meeting DFC. Cattle access is very limited because of topographic limitations or lack of suitable forage along the stream.

DFC summary:

1. Existing condition is high similarity
2. Desired future condition is high similarity to PNC
3. Maintain B3 and B3a channel types
4. Maintain the existing vegetative community type
5. Eighty-six feet out of every 100 feet of streambank should be stable. (.95 x .9 = 86)
6. Maintain the stream at or near Potential Natural Condition

Critical Parameters and Use Levels to meet DFC:

Because the existing condition meets the DFC, no changes in grazing management are necessary for Lewis Creek. No critical parameters have been identified and existing riparian utilization rates should be maintained.

Desired Future Condition for Mill Fork of Hyalite Creek

Sensitivity Level: Because Mill Fork Creek does not support TES fish species, important recreational fisheries, other higher value attributes, and because the existing and potential stream type is B4, the stream was given a Sensitivity Level of II. The management goal for streams with a Sensitivity Level II is to manage the stream at a level of at least 80% of its potential.

Inherent stability: The B4 channel type in Mill Fork Creek is inherently very stable. Riparian vegetation exerts low to moderate influence on bank and channel stability. The predominant riparian habitat type for Mill Fork Creek within the allotment is Kentucky bluegrass (POAPRA) with an overstory Douglas fir component. The potential community type is Douglas fir with an understory of snowberry (PSEMEN/SYMALB). The channel is not 100% stable even under pristine conditions. Isolated areas of erosion are caused by natural stream dynamics. A conservative inherent stability score of 90% is given to Mill Fork Creek with a (PSEMEN/SYMALB) community type.

Similarity to DFC: The B4 channel type in Mill Fork Creek represents an unaltered channel state. However, for an approximate 200 feet reach of stream, cattle concentration, when the allotment was active, resulted in bank trampling with channel stability scores exceeding FP standards. Trampling also resulted in more than a 25% loss in streambank cover, which exceeds the MA7 requirements to promote filtering of overland flow. A PFC rating was not conducted for the previously impacted reach. However, based on photo interpretation and surveys conducted in 1997 and 1999, the reach would likely have been categorized as “Functioning at Risk” with a downward trend, with impacts primarily associated with cattle concentration. Currently the stream would likely be categorized as “Functioning at risk with upward trend” because significant recovery has occurred during non-use years. The existing dominant vegetative community type is Kentucky bluegrass (POAPRA) with a Douglas fir overstory, but the potential community or PNC would have a higher density of snowberry. The existing condition is considered to have a “moderate/low” similarity to its PNC primarily because of the loss of snowberry.

DFC summary:

1. Maintain existing B4 channel type.
2. Existing condition is moderate/low similarity to PNC.
3. DFC is to attain a moderate/high similarity to PNC.
4. 68 feet out of every 100 feet of streambank should be stable. (.75 x .90 = .68)
5. Maintain “functioning at risk with an upward trend”
6. Encourage growth of snowberry along the previously impacted reach by reducing woody utilization.
7. Less than 20-point Pfankuch channel stability departures. Few departure points would be attributed to grazing.

Critical Parameters and Use Levels to meet DFC:

Increasing snowberry production along the immediate banks of the stream will require a reduction in allowable woody utilization. Because B4 channels typically have relatively stable banks and because riparian vegetation exerts low to moderate control on bank stability, the DFC relative to bank stability and channel maintenance should be easily attainable if cattle are not allowed to concentrate along the previously impacted 200 foot reach of stream. However, if cattle are allowed to concentrate in the same location, allowable bank alteration will likely be met soon after cattle concentrate. As such, the critical parameters for attaining DFC in Mill Fork Creek are both shrub utilization and streambank alteration.

Allowable stubble height = N/A for June and July; 3” in August; 4” in September; and 4” in October.

Allowable woody utilization is “0” for all months.

Allowable forage utilization would be 30% in June; 35% in July, 30% in August; and 20% in September and October.

Desired Future Condition for Hyalite Creek

Sensitivity Level: Because Hyalite Creek does not support TES fish species, important recreational fisheries or other higher value attributes, and because the existing and potential stream type is A3/A4, the stream was given a Sensitivity Level of II. The management goal for streams with a Sensitivity Level II is to manage the stream at a level of at least 80% of its potential.

Inherent stability: Hyalite Creek is an A3/A4 channel type, with a very high sensitivity to disturbance, very poor recovery potential, very high sediment supply, and very high streambank erosion potential. Riparian vegetation typically exerts negligible controlling influence on channel stability for A3/A4 channel types. The predominant riparian habitat type for Hyalite Creek is alder and dogwood ((ALNIC/CORSTO) with an inherent stability of 100%. The channel is not 100%

stable even under pristine conditions. Isolated areas of erosion are caused by natural stream dynamics. A conservative stability score of 95% is given to Hyalite Creek.

Similarity to DFC: Based on stream surveys, stream channel sensitivity analysis, and field reviews, grazing has had no impact on riparian vegetation, streambank or channel stability, or channel form and function in Hyalite Creek. Although flood flows during spring 1997 caused channel aggradation and degradation, those disturbances are considered natural. Thus, existing habitat conditions, including channel and bank stability, meet FP guidelines. Existing condition is considered to have a “high similarity” to its potential natural condition. No evidence of riparian grazing was observed during a field review in 1997 because extremely dense deciduous shrubs avert cattle access to the stream. As such, the stream is currently meeting DFC.

DFC summary:

1. Existing condition is high similarity
2. Desired future condition is high similarity to PNC
3. Maintain A3 and A4 channel types
4. Maintain the existing vegetative community type
5. Eighty-six feet out of every 100 feet of streambank should be stable. (.95 x .9 = 86)
6. Maintain the stream at or near Potential Natural Condition

Critical Parameters and Use Levels to meet DFC:

Because the existing condition meets the DFC, no changes in grazing management are necessary for Hyalite Creek. No critical parameters have been identified and existing riparian utilization rates should be maintained.

Desired Future Condition for Big Creek

Sensitivity Level: Big Creek supports a moderate number of rainbow and hybrid cutthroat trout and is considered to have regional and local significance as a fishery. However, Big Creek does not support TES fish species or other higher value attributes. The existing and potential stream type is B2/B3, which has a very low sensitivity to grazing impacts. In addition, no suitable range has been identified along Big Creek and limited riparian grazing occurs because steep topography precludes livestock access to the stream. As such, the stream was given a Sensitivity Level of II. The management goal for streams with a Sensitivity Level II is to manage the stream at a level of at least 80% of its potential.

Inherent stability: The B2/B3 channel types in Big Creek are inherently very stable and riparian vegetation has low to moderate influence on bank and channel stability. The predominant riparian habitat type for Big Creek is alder and dogwood ((ALNIC/CORSTO) with an inherent stability of 100%. Overstory conifers dominate some reaches with the understory consisting of grasses and forbs. The channel is not

100% stable even under pristine conditions. Isolated areas of erosion are caused by natural stream dynamics. A conservative stability score of 95% is given to Big Creek.

Similarity to DFC: Based stream surveys, stream channel sensitivity analysis, and field reviews, grazing has had no impact on riparian vegetation, streambank or channel stability, or channel form and function in Big Creek. Existing habitat conditions, including channel and bank stability, exceed 90% of the streams inherent capability. Existing condition is considered to have a “high similarity” to its potential natural condition and its desired future condition. As such, habitat conditions in Big Creek meet Forest Plan Implementation guidelines for habitat quality and bank stability and the stream is currently meeting DFC. Cattle access is very limited because of topographic limitations or lack of suitable forage along the stream.

DFC summary:

1. Existing condition is high similarity
2. Desired future condition is high similarity to PNC
3. Maintain B2 and B3 channel types
4. Maintain the existing vegetative community type
5. Eighty-six feet out of every 100 feet of streambank should be stable. ($.95 \times 100 = 95$)
6. Maintain the stream at or near Potential Natural Condition

Critical Parameters and Use Levels to meet DFC:

Because the existing condition meets the DFC, no changes in grazing management are necessary for Big Creek. No critical parameters have been identified and existing riparian utilization rates should be maintained.