

EXISTING CONDITION	DESIRED CONDITION
<p><b>Fisheries:</b> Indian Creek is a small headwater stream that supports a low density brook trout population. The stream was sampled in 2007. Brook trout biomass was estimated at 26 kg/ha, ranking in the lower 10<sup>th</sup> percentile of streams within across a broader planning area. Fish lengths ranged from 150-210 mm and weights ranged from 32-114 g. Measured water quality parameters (D.O., pH, water temp) were within the appropriate range and macroinvertebrates were abundant. Indian Creek lacks large substrate particle size (cobble &gt; 6", boulder &gt; 14") needed to provide habitat complexity at the level necessary to support more biomass. Moreover, little pool development was observed leading to low width/depth and pool/riffle ratios. Contributing to the small substrate particle size and lack of habitat complexity is the close proximity of Indian Creek to FSR 421. Over much of its course, FSR 421 is within 10 meters of the stream and crosses it many times. Small sediments from the road undoubtedly enter the stream during snow melt and rain events. Moreover, the proximity of the road to the stream minimizes the size of the riparian buffer and its ability to protect the stream from erosive disturbances. The road crosses Indian Creek in many locations. Culverts at these road crossings reduce fish passage and fragment stream habitat. The stream banks were, however, well vegetated and the riparian zone was characterized by abundant large woody species.</p>	<p><b>Fisheries:</b> From a fishery standpoint, Indian Creek is likely at the desired future condition. The limiting factors to the brook trout population are related to travel management, not livestock grazing. Therefore, changes in management of livestock grazing on the allotment will not improve the fish population or stream habitat.</p>
<p><b>Range Management:</b> <i>Tracy Canyon Pasture</i> - Livestock recreational conflicts occurring in the Indian Creek Trailhead area. Unauthorized grazing use from adjacent private lands is occurring on the allotment. Spring development located west of</p>	<p><b>Range: :</b> In the McCarty Park area develop new water sources in uplands to reduce grazing use in the South Middle Creek drainage. Avoid recreational/livestock grazing use conflicts in the Indian Creek Trailhead area. Resolve unauthorized grazing</p>

<p>the Indian Creek Road (Frog Pond Pasture) needs to be redeveloped . Water availability in the McCarty Park area of Sawmill Pasture is lacking. Cattle extract water from stream riparian areas. Tracy Park and Indian Creek Pasture are used together.</p>	<p>use situations on the allotment. Redevelop the spring located west of the Indian Creek Road (Frog Pond Pasture).</p>
<p><b>Recreation:</b> Forest Service roads 410 and 421 are present in the allotment. The Indian Creek Trailhead and portions of trail (#1300) are in the allotment. Dispersed camping and OHV use are increasing in the area. Hunting seasons have an increase in use when they occur. Conflicts between recreational users and livestock occur at the Indian Creek TH and along the Indian Creek trail. Some illegal motorized use occurs off of the adjoining private land to the west. The Indian Creek trail has resource damage from OHV use where it crosses Bonnet Creek.</p>	<p><b>Recreation:</b> Maintain accessibility of roads, trails and TH’s. Minimize conflicts between livestock and recreational users. Avoid creating avenues for illegal motorized use. Do not magnify the problem area around Bonnet Creek created by OHV use.</p>
<p><b>Wildlife:</b> TES habitat exists for: boreal toad, northern leopard frog, northern goshawk, boreal owl, olive-sided flycatcher, peregrine falcon, flammulated owl, American three-toed woodpecker, Mexican spotted owl, Brewer’s sparrow, American hog-nosed skunk, wolverine, Canada lynx, American martin, fringed myotis, Rocky Mountain bighorn sheep, and Townsend’s big-eared bat;</p> <p><i>Bonnet Park Pasture – (LCBP-T1 and LCBP-P1)</i></p> <ul style="list-style-type: none"> <li>-Vegetation is in apparent upward trend</li> <li>-Excellent litter/vegetative cover</li> <li>-Good composition of native grasses</li> <li>-Non-native grass present (Timothy) limiting wildlife habitat capability</li> <li>-Canada thistle/hounds tongue present (noxious weeds) limiting wildlife habitat capability</li> <li>-Trail across park causing resource concerns; exposed culverts,</li> </ul>	<p><b>Wildlife:</b> <i>All Areas:</i> supportive of active beaver colony(ies)/densities within the Historical Range of Variability (HRV) in applicable potential habitat types/areas; willow carrs and riparian vegetation in lynx habitat at mid-seral or higher condition; and grasses/forbs species composition, densities are within HRV levels.</p> <p><i>Bonnet Park Pasture – (LCBP-T1 and LCBP-P1)</i></p> <ul style="list-style-type: none"> <li>-ATV damage to resources abated (trail improved, armored, etc.) and/or ATV trail moved out of meadow area entirely will increase wildlife habitat effectiveness</li> <li>-Stream channel Type E will be preserved for Bonnet Creek (will improve and maintain aquatic organism habitat)</li> <li>-Springs in area are inventoried/protected; esp. one located near LCBP-P1(will improve and maintain aquatic organism habitat)</li> <li>-Noxious weeds are abated/controlled in the park (will improve wildlife habitat effectiveness)</li> </ul>

<p>water build up behind it; vegetation trampled by ATV using trail and boggy area has resource damage occurring limiting wildlife habitat capability</p> <ul style="list-style-type: none"> <li>-Bonnet Creek is Type E channel</li> <li>-Remnant willows present along streambanks/riparian area is limiting lynx and other wildlife habitat capabilities; more willow present south of trail vs. north of trail; small willows present; should improve if water situation improves</li> <li>-Hedging of willows present; most &lt; 1' high; some clumps are 3-4' high is limiting lynx and other wildlife habitat capabilities</li> <li>-Spring located ~200' west of photo point LCBP-P1 needs protection, potentially limiting aquatic organism habitat</li> <li>-Four inactive breached beaver dams in park, indicative of past beaver activity</li> <li>-Incredible amounts of <i>Carex</i> and <i>Juncus</i> spp. plants above and below trail in the meadow indicating vegetative condition is good or at potential</li> <li>-Disproportionate amount of grazing is occurring in riparian area vs. uplands is limiting lynx and other wildlife habitat capabilities</li> <li>-Stubble height of <i>Carex</i> is 4-5 inches; utilization of upland grasses is light</li> <li>-Small areas on northwest side of park do not have good forage production and plant species composition</li> <li>-Historical farming practices occurred in the park</li> <li>-Area was heavily grazed by livestock during period of private ownership</li> <li>-Aspen clumps have been cut/cleared in the park and consequently there has been aspen regeneration which provides additional lynx habitat</li> <li>-Light signs of elk usage (moist pellets)</li> </ul>	<ul style="list-style-type: none"> <li>-Willows in area will be at mid-seral or higher at HRV densities/cover percent (will improve lynx and other wildlife habitat effectiveness)</li> <li>-Native bunch grasses cover/density maintained; non-native Timothy is eradicated/controlled (will improve wildlife habitat effectiveness)</li> <li>-Suitable habitat is present for beaver re-colonization and biodiversity of flora and fauna is high</li> </ul> <p><i>Tracy Pasture (Tracy Canyon Area – ICTC-P1)</i></p> <ul style="list-style-type: none"> <li>-Upper west end of stream channel is stabilized (will improve and maintain aquatic organism habitat)</li> <li>-Native species cover/composition in area has increased to within HRV (will improve wildlife habitat effectiveness)</li> </ul>
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<p><i>Tracy Pasture (Tracy Canyon Area – ICTC-P1)</i>                  -Headcuts present; non-native grasses contributing to headcutting; runoff and past drought conditions also contributing factors potentially limiting wildlife habitat effectiveness                  -Widespread cover of non-native species present in area potentially limiting wildlife habitat effectiveness                  -Canada thistle present (noxious weed) potentially limiting wildlife habitat effectiveness                  -Historical cultivation in area has affected forage production potentially limiting wildlife habitat effectiveness                  -Potential for aspen encroachment into open parks potentially providing improved lynx habitat                  -Area recovering from historical grazing impacts</p> <p><i>Sawmill Pasture (McCarty Park Area – ICSM-T1 &amp; ICSM-P2)</i>                  -Excellent composition/vigor of native grasses                  -Greater amounts bare soil present here vs. White Creek uplands on West Peak allotment                  -Best area of allotment                  -Bare ground present as a result of snow accumulation in areas???. could be result of grazing impacts (may be impacting wildlife habitat effectiveness)                  -Site has higher susceptibility of runoff (may be impacting wildlife habitat effectiveness)                  -Soils on site are stable                  -Open well in frog pond area is without a cover and had dead rodent trapped in it</p>	<p>-Water sources are developed away from riparian area to minimize damage to it (will improve wildlife habitat effectiveness)</p> <p><i>Sawmill Pasture (McCarty Park Area – ICSM-T1 &amp; ICSM-P2)</i>                  -Existing condition to be maintained                  -Maintain good surface litter on upland areas to maintain soil stability and prevent excessive runoff                  -Water is removed from drainage below upland areas (due to temp. fencing, water development in uplands)                  -All range water developments will have adequate wildlife escape ramps</p>
<p><b>Vegetation:</b> Overall on the allotment the range condition is good with an apparent upward trend. Overall the vigor, vegetative composition, and litter cover is excellent. Conifer encroachment is occurring in open areas of allotment. <i>Tracy Canyon Pasture-</i></p>	<p><b>Vegetation:</b> Maintain the overall allotment range condition in an upward trend. Maintain an excellent overall vigor, vegetative composition, and litter cover. Reduce encroachment of conifers in open parks. <i>Tracy Canyon – Reduce cover of smooth brome</i></p>

<p>Area is recovering from historical heavy grazing use. Widespread cover of introduced grasses (smooth brome and timothy). Canadian thistle present in pasture. Past cultivation has affected forage production. Potential for aspen encroachment in open parks. <i>Sawmill Pasture/McCarty Park Area</i> – Excellent composition of native grasses (Parry’s oatgrass) and adequate ground cover present. <i>Bonnet Park</i> — Pasture received heavy grazing use when the area was under private ownership. Condition of vegetation is in an apparent upward trend. The area has improved considerably since 1964 with less bare ground and greater amounts of litter. Since 1970 grasses have become more diverse and vigor has increased. Excellent litter/vegetative cover. Good composition of native grasses. Nonnative grasses (timothy present). More grazing use is occurring in the riparian areas than in the uplands. Hedging of willows present. Remnant willows are present in the park. More willows are present south of the trail rather than north of the trail. Willow plants are less than a foot high. Some clumps are present which are 3 to 4 feet tall. Desirable amounts of <i>Carex</i> and <i>Juncus</i> both above and below the trail in the meadow which indicates the condition is good. Small areas located on the northwest side of the park do not have good forage production and plant composition. In 2007 after pasture was used by livestock, stubble height of <i>Carex</i> in Bonnet Park was 4-5 inches and utilization of upland grasses was light. Historical farming practices have occurred in the park. Clumps of aspen have been cleared in the parks which have since regenerated aspen. Canadian thistle and hound’s tongue present.</p>	<p>and timothy and establish more native grass species. Allow for aspen regeneration in pasture. <i>Sawmill Pasture-</i> Maintain existing condition (good litter cover) in the McCarty Park Pasture area. <i>Bonnet Park-</i> Manage area to increase willows in the riparian area. Maintain cover of native bunch grasses and reduce cover of timothy. Continue treatment of noxious weeds on allotment. Allow for adequate willow regeneration. . Maintain cover of <i>Carex</i> and <i>Juncus</i> in riparian areas.</p>
<p><b>Hydrology:</b> The Indian Creek C&amp;H allotment is comprised of 4 pastures</p>	<p><b>Hydrology:</b> The main objective is to maintain the uplands and the riparian and</p>

<p>totaling approximately 7,700 acres (12.1 square miles).</p> <p>Twenty-six percent (1,980 acres) of the allotment is open parks, yet only seven percent (540 acres) of the allotment is accessible to livestock. These open parks are the primary areas grazed by livestock. In round figures, 38% of this area is riparian, 28% is grassland, and 34% is shrubland.</p> <p>Appendix A of the hydrology report contains maps which show the open parks area for each pasture. Each map displays the wetter and drier portions of the pasture by climatic zones, improvements, and roads/trails. Known soil disturbances are also indicated on the existing condition maps by the small, red circles. Appendix B of the hydrology report contains a spreadsheet of the field observations made by the hydrologist; descriptions of the soil disturbances can be found there if observed.</p> <p>Of the accessible acreage on the Indian Creek allotment, 27% occurs in the subalpine, 23% occurs in the montane, and 50% occurs in the lower montane climatic zone.</p> <p>The accessible open park within the subalpine zone is mostly underlain by soil map units 510M and 610G. Parent material of 510M is comprised of residuum and slope wash; this soil unit is drier and supports the subalpine fir and Englemann spruce ecological unit. Parent material of 610G is comprised of glacial till and fluvial valley fill; this soil unit is also drier and it too supports the subalpine fir and Englemann spruce ecological unit.</p> <p>The accessible open park within the montane zone is mostly underlain by soil map units 101F, 516M and 702M. Parent</p>	<p>stream corridors at desired condition. The following bullets summarize some of the related guidance discussed in the Forest Land &amp; Resource Management Plan, the Watershed Conservation Practices (WCPs), and other key, hydrologic concepts:</p> <ul style="list-style-type: none"> <li>• Maintain all riparian ecosystems in at least an upper mid-seral stage based upon the R2 Riparian Ecosystem Rating System ( PSICC LRMP, III-50). Provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water-body shorelines (PSICC LRMP, III-203).</li> <li>• Achieve desired condition of riparian areas by following the standards set forth in the Watershed Conservation Practices (WCP) Handbook, FSH 2509.25. Section 12 deals specifically with Riparian Areas. Management measure (3) of this section states, “In the water influence zone (WIZ) next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition.” Adherence to the design criteria within this standard will help to sustain riparian areas at or move them toward their desired conditions.</li> <li>• To provide healthy uplands and riparian communities and stable stream systems in order to sustain the flow of high quality water to the forest boundary under current climatic conditions.</li> <li>• To ensure that grazing does not negatively alter the hydrologic processes in the uplands and along the riparian corridors, and to maintain the pattern, profile and dimensions of the stream network.</li> </ul>
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<p>material of the 101F is comprised of alluvium; as expected this soil map unit is also wet and it supports riparian communities. Parent material of 516M is comprised of slope wash and residuum; this soil unit is also drier and it supports the white fir and Douglas fir ecological unit. Parent material of 702M is comprised of colluvium and residuum; this soil unit is drier and supports the Thurber fescue and Parry oatgrass ecological unit.</p> <p>The accessible open park within the lower montane zone is mostly underlain by soil map units 102F, 103F, 505M, 506M and 529M. Parent material of the 102F is comprised of slope wash and alluvium. This map unit is obviously drier than 100F and 101F, yet can be wet in places; this soil map unit supports the blue gramma and needlegrass ecological unit. Parent material of the 103F is comprised of alluvium; as expected this soil map unit is wet and it supports riparian communities. Parent material of 505M is comprised of slope wash and residuum; this soil unit is drier and it supports the Gambel oak and snowberry ecological unit. Parent material of 506M is also comprised of slope wash and residuum; this soil unit is drier and it supports the ponderosa pine and Gambel oak ecological unit. Parent material of 529M is comprised of residuum and colluvium, and this map unit is also drier and it too supports the ponderosa pine and Gambel oak ecological unit.</p> <p>The majority of the riparian acreage on this allotment is comprised of aspen and evergreen stringers. Site visits by the hydrologist to this allotment were limited to IDT visits. The range staff is monitoring a few small headcuts, one in the Sawmill pasture and one in the Tracy Canyon pasture.</p>	<ul style="list-style-type: none"> <li>• To protect the hydrologic integrity and functionality of all riparian communities, particularly the subalpine, mesic vegetative community types by reducing livestock use in these areas, and by improving distribution onto and increasing the utilization of the mountain grasslands.</li> <li>• To ensure that current water sources are adequately watering the livestock in a manner that is protecting those sources and the watershed. Where this is not occurring use tools available under current management or adaptive management to provide sufficient water in a manner that protects these resources. Develop springs in a manner that provides for their long-term sustainability.</li> </ul> <p>The main objective for the Lakes Allotment is to maintain the uplands and the riparian and stream corridors at desired condition. The following bullets summarize some of the related guidance discussed in the Forest Land &amp; Resource Management Plan, the Watershed Conservation Practices (WCPs), and other key, hydrologic concepts:</p> <ul style="list-style-type: none"> <li>• Maintain all riparian ecosystems in at least an upper mid-seral stage based upon the R2 Riparian Ecosystem Rating System ( PSICC LRMP, III-50). Provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water-body shorelines (PSICC LRMP, III-203).</li> </ul>
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<p>The Lakes C&amp;H allotment is comprised of 1 pasture totaling approximately 760 acres (1.2 square miles), and this allotment is managed together with the Indian Creek C&amp;H allotment.</p> <p>Just over nine percent (70 acres) of the allotment is open parks, yet only six percent (45 acres) of the allotment is accessible to livestock. These open parks are the primary areas grazed by livestock. In round figures, 78% of this area is riparian, and 22% is grassland.</p> <p>Appendix A of the hydrology report contains maps which show the open parks area for each pasture. Each map displays the wetter and drier portions of the pasture by climatic zones, improvements, and roads/trails. Known soil disturbances are also indicated on the existing condition maps by the small, red circles. Appendix B of the hydrology report contains a spreadsheet of the field observations made by the hydrologist; descriptions of the soil disturbances can be found there if observed.</p> <p>Of the accessible acreage on the Lakes allotment, 98% occurs in the montane climatic zone (See Appendix A, Map 39). The accessible open park within the montane zone is mostly underlain by soil map units 101F, and 516M. Parent material of the 101F is comprised of alluvium; as expected this soil map unit is wet and it supports riparian communities (80% of the accessible acreage). Parent material of 516M is comprised of slope wash and residuum; this soil unit is drier and it supports the white fir and Douglas fir ecological unit. A closer look at Bonnet Park reveals that 25 acres of the riparian vegetation is mesic meadow and upland grassland associated with riparian, and 10 acres are aspen. Ten acres of grassland occur in the adjacent uplands. Hounds</p>	<ul style="list-style-type: none"> <li>• Achieve desired condition of riparian areas by following the standards set forth in the Watershed Conservation Practices (WCP) Handbook, FSH 2509.25. Section 12 deals specifically with Riparian Areas. Management measure (3) of this section states, “In the water influence zone (WIZ) next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition.” Adherence to the design criteria within this standard will help to sustain riparian areas at or move them toward their desired conditions.</li> <li>• To provide healthy uplands and riparian communities and stable stream systems in order to sustain the flow of high quality water to the forest boundary under current climatic conditions.</li> <li>• To ensure that grazing does not negatively alter the hydrologic processes in the uplands and along the riparian corridors, and to maintain the pattern, profile and dimensions of the stream network.</li> <li>• To protect the hydrologic integrity and functionality of all riparian communities, particularly the subalpine, mesic vegetative community types by reducing livestock use in these areas, and by improving distribution onto and increasing the utilization of the mountain grasslands.</li> <li>• To ensure that current water sources are adequately watering the livestock in a manner that is protecting those sources and the watershed. Where this is not occurring use tools available under current management or adaptive management to provide sufficient water in a manner that protects these resources. Develop springs in a manner that</li> </ul>
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<p>tongue and Canada thistle are present in the park, yet they are being treated. Bonnet Park was identified as a special area of concern by the IDT.</p>	<p>provides for their long-term sustainability.</p>
<p><b>Soils:</b>                  Bonnet Park has 623 acres of capable grazing, 83% of total pasture area; Sawmill Pasture has 1135 acres of capable grazing, 57% of total pasture area; Tracy Canyon Pasture has 499 acres of capable grazing, 42% of total pasture area; Frog Pond has 571 acres of capable grazing, 88% of total pasture area;</p> <p>No capable grazing areas are found on slopes greater than 40% or in areas of highly erodible soils.</p> <p>Total pasture size: Bonnet Park, 755 acres, Sawmill, 2006 acres, Tracy 1183 acres, Indian Creek Pasture, 3890 acres, Frog Pond Pasture, 652 acres:</p> <p>Frog Pond: Soils are stable with adequate ground cover, apparent trend is stable, plant growth is limited by poor soils in much of area, soil rooting depth is less than 20 inches with depth to seasonal high water table greater than 6 feet, rapid runoff, and low moisture permeability,                  Sawmill: existing soil condition is good, ground cover is good with little or no evidence of soil loss/sediment yield on upland meadows, some evidence of old bank degradation in stream running through McCarty park with lowered water table, however, bank appears to be stabilizing and apparent trend is upward in park area, rancher reports that much of pasture is shaded for long periods of time slowing snow melt and limiting grass development and growth;</p>	<p><b>Soils:</b>                  Maintain good ground cover in all allotments,                  Bonnet Park: develop water sources away from existing ponds to move cows to underutilized grass above riparian areas and help heal trampled areas. ATV trail should be re-routed away from stream and riparian area, gate to private property should be secured to prevent unauthorized use of closed road.</p>

<p>Tracy canyon: Good vegetative cover with stable soils; Bonnet Park: excellent ground cover no evidence of soil loss/sediment yield in meadow surrounding riparian wetland, some mild rilling in wetland, some mild pedestalling evident in lower portion of wetland near trail, during October field trip no evidence of cattle but estimate 50 + elk bedded in upland grasses, evidence of elk utilization in the wetland, some evidence of cattle/elk trampling near ponds, atv activity is damaging stream and soils in mid-park area, closed trail shows evidence of atv use.</p>	
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