

Appendix 3: Identified stream impairments (KirK Environmental, 2003).

Stream	Impairment Issues	Probable Causes	Comments
<i>Baggs Creek</i>	BMI/periphyton: Potential nutrient enrichment, thermal impairment, some siltation. Riparian: invasive weeds, grazing and sediment impacts. Riparian only assessed below FS boundary.	Sediment and riparian: riparian grazing.	100% pure westslope cutthroat present.
<i>Cottonwood Creek</i>	Metals: potential metals impairment. Nutrients: total nitrogen, total phosphorus, SRP elevated in lower reaches near Deer Lodge. Sediment: siltation of lower reaches. BMI/periphyton: severe sediment, thermal, nutrient impairment in lower reaches. Riparian: invasive weeds, grazing and sediment impacts common below FS boundary.	Metals: acid mine drainage. Nutrients: Urban runoff, livestock use of channel, feedlots/corrals on creek. Sediment: dewatering, stream bank collapse. Thermal: dewatering, riparian cover loss.	100% pure westslope cutthroat present in upper reaches. Emery Mining District priority mine site located in North Fork Cottonwood and Rocker Gulch.
<i>Peterson Creek</i>	Nutrients: total phosphorus and SRP elevated in lower reaches near Deer Lodge. Sediment: siltation of lower reaches. BMI/periphyton: warm, nutrient enriched water, mild siltation. Riparian: invasive weeds, grazing and sediment impacts prevalent.	Nutrients: livestock use of channel, feedlots/corrals on creek. Sediment: dewatering, stream bank collapse, feedlots/corrals on creek. Thermal: dewatering, riparian cover loss.	100% pure westslope cutthroat present in upper reaches.
<i>Caribou Creek</i>	Nutrients: total nitrogen, total phosphorus and SRP likely elevated. BMI/periphyton: Nutrients elevated, potential siltation. Riparian: grazing management and invasive weeds impact reaches in lower half.	Nutrients and sediment: livestock use of channel.	Caribou Creek likely devoid of fish.
<i>Orofino Gulch</i>	Nutrients: total nitrogen, total phosphorus and SRP likely elevated. Sediment: localized siltation. BMI/periphyton: thermal, nutrient, and siltation impairment. Riparian: widespread grazing impacts. Invasive weeds and sediment impacts common below FS boundary.	Nutrients, sediment: livestock use of channel. thermal: loss of riparian cover.	100% pure westslope cutthroat present. Champion priority mine site located in headwaters.
<i>Sand Hollow</i>	Nutrients: total nitrogen, total phosphorus and SRP possibly elevated. Riparian: widespread grazing impacts. Invasive weeds and sediment impacts common below FS boundary.	Nutrients and sediment: livestock use of channel.	Very limited flow in upper reaches and ephemeral over most of drainage. No fish present.
<i>Dry Cottonwood Creek</i>	Nutrients: total nitrogen, total phosphorus and SRP likely elevated. Sediment: siltation of middle to lower reaches. BMI/periphyton: Sediment, nutrient, and thermal impairment of lower reaches. Riparian: invasive species impacts common in middle to lower reaches, grazing and sediment impacts common in middle to upper reaches.	Nutrients: livestock use of channel. Sediment: road runoff and bank trampling.	Hybridized westslope/Yellowstone cutthroats present. Road has been identified by USFS as a major sediment source to creek.
<i>Sand Creek</i>	Riparian: widespread invasive weed impact.		Ephemeral stream with no fish or aquatic life. Riparian assessment not evaluated for grazing or sediment impacts due to lack of channel.

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<p>Perkins Gulch</p>	<p>Nutrients: Total nitrogen, total phosphorus, SRP potentially elevated. Sediment: episodic severe bedload deposition. BMI/periphyton: mild sediment impacts overall, thermal and nutrient impairment in lower perennially flowing reaches. Riparian: invasive weed impacts widespread below FS boundary. Grazing impacts in middle reaches and several tributaries on FS lands. Sediment impacts more common in lowest and middle reaches.</p>	<p>Nutrients: livestock use of channel. Sediment: road erosion, livestock use of channel.</p>	<p>Soils prone to erosion. 100% pure westslope cutthroat present. Road has been identified by USFS and KirK Environmental (2003) as a major sediment source to creek.</p>
<p>Girard Gulch</p>	<p>Metals: copper above aquatic life standards. Nutrients: Total nitrogen, total phosphorus, SRP potentially elevated. Sediment: episodic severe bedload deposition. Riparian: Invasive species impact widespread. Grazing impact in upper reaches. Sediment impacts lower reach only.</p>	<p>Metals: unknown. Nutrients: livestock use of channel. Sediment: road erosion, livestock use of channel.</p>	<p>Soils prone to erosion. Ephemeral stream with no fish.</p>
<p>- Indicates analysis includes BDNF lands.</p>			