1.Blacktail Creek Watershed Summary

Description and Land Use

Table xxx: Blacktail Creek Watershed Overview

Watershed Size	24,489 acres/38.3 sq miles/99.1 sq km
Elevation Range	2,723 feet [5,479-8,202]
Stream Miles	71.8
Land Ownership	Private: 31% /Federal: 52%/ Local Government: 17%
Road Miles	Local Road/City Street = 94.6 Four Wheel Drive Trail = 3.5 Driveway/Service Road = 6.8 Highway= 20.7 Total = 125.6

Source: Montana GIS Portal Data Layers

Blacktail Creek is a tributary to Silver Bow Creek, which in turn, drains directly into the Clark Fork River. Blacktail Creek flows for over fifteen miles before its confluence with Silver Bow and drains an area of almost 40 square miles (Table xxx). The land ownership within the basin is divided mainly between private and federal entities, and supports grazing, irrigated agriculture timber harvest, residential development, recreation and historically, mining (MFWP, 2009).

2.Impairments

Temperature

Thermal impairments are often attributed to agricultural dewatering or lack of stream cover, and have been documented on Blacktail Creek. Temperatures on some reaches of the creek have often climbed above 15 °C (MFWP, 2009). Concerning fishery health and fish survival, temperatures below 16°C are optimum for westslope cutthroat trout growth, while temperatures below 20 °C are critical for their survival (Kirk, 2010). High temperatures also encourage algae growth and reduce dissolved oxygen content, which can be detrimental to fish health.

Table xxx: Temperature Measurements for Blacktail Creek

	RM*	Start Date	End Date	Max T (°C)	Days>15°C	Days>20°C
MFWP 2008	0.2	7/8	10/13	19.3	47	0
	6.6	7/8	10/13	17.7	22	0

*River Mile
Source: MFWP 2009

3.Native/Sport Fishery

Table xxx: Fish Distribution in Blacktail Creek

Waterbody	Begin RM*	End RM*	Species	Updated
Blacktail Creek	11.9	13.5	Brook Trout	8/27/2009
Blacktail Creek	0.0	11.9	Brook Trout	3/25/2009
Blacktail Creek	2.0	3.1	Central Mud Minnow	8/27/2009
Blacktail Creek	5.0	7.0	Central Mud Minnow	9/2/2009
Blacktail Creek	0.0	6.3	Longnose Sucker	2/23/2009
Blacktail Creek	0.0	15.2	Westslope Cutthroat Trout	8/27/2009

Source: MFWP, 2010

Current Condition

Montana FWP conducted fish sampling on Blacktail Creek in July of 2008 and also completed riparian assessments at River Mile 3.0, 6.2, 8.2, 9.6, and 13.0. The sampling found brook and westslope cutthroat trout in the creek, and the quantity of westslope cutthroats increased as the sampling moved toward the headwaters. Brook trout were most abundant in the lower reaches (MFWP, 2009).

Fish habitat improved in the upper reaches as well. River Mile 3.0 was rated only "fair" and not at its potential. The riparian habitat lacked sufficient woody vegetation and signs of bank erosion and channel incisement were apparent. Mile 6.2 exhibited "good" fish habitat, but still lacked woody vegetation and debris. Habitat at Mile 8.2, 9.6 and 13.0 was "good" but lacked sufficient woody debris in the channel. Disturbance-induced vegetation was also present in some areas (MFWP, 2009).

Fishery Potential

Table xxx: Tributary Rating Summary for Blacktail Creek (Priority 3)

Stream	Reach(RM)	Trout Species	Impairments
Blacktail Creek	All: 0.0-15.2	Brook and Westslope Cutthroat	Low summer flows due to irrigation; instream barriers to fish passage; livestock grazing in riparian areas; mining effects; high temperatures; competition to westslope cutthroat from brook trout; residential development
Current Recruitment/Restoration Fishery Value			Protection/Enhancement Value
Medium			**High**
Current Tributary/Replacement Fishery Value			Protection/Enhancement Value
Low			**Medium**
Current Native Fishery Value (westslope cutthroat)			Protection/Enhancement Value
Medium			**Medium**

Source: MFWP, 2010

Blacktail Creek experiences some impairment, protection and enhancement possibilities for a viable trout fishery exist (Table xxx). Montana FWP has shown an interest in managing (in collaboration with state agencies and other organizations) Blacktail Creek as a recreational fishery, declaring it a "Priority 3" stream reach in the agency's Final Tributary Rating Summary (2010). Improved management practices can increase the fishery viability by addressing documented impairments (Table xxx) with appropriate restoration projects.

4.Assessments

Blacktail Creek's habitat and water quality status have been assessed by the Montana FWP (Table xxx). Assessments included fish habitat and fishery potential, temperature, noxious weeds, stream flow, and stream channel and riparian habitat status.

Table xxx: Blacktail Creek Assessments

Type	Agency	Year	Area
Tributary Prioritization/ Rating Summary	MFWP	2010	River Mile 0.0-15.2
Fish Population/Riparian Habitat	MFWP	2009	River Mile 3.0. 6.2, 8.2, 9.6 and 13.0

5.Restoration

Needs

- Continued temperature and streamflow monitoring throughout the creek
- Work with landowners to remove impediments to fish passage
- Address erosion issues with riparian plantings and limited livestock access

Activities: Projects being undertaken by the WRC

6.Watershed Map

7.Bibliography

Fischer, Jessie. Blacktail Creek Watershed map. 1:100,000. [Printed/Computer Maps]. Fischer Geospatial Enterprises, LLC. Missoula, Montana. 2011.

KirK Environmental and Natural Resources, Inc. *Cottonwood Creek Flow Monitoring and Fish Barrier Study, Flow Monitoring and Water Rights Report.* Watershed Restoration Coalition. Deer Lodge, Montana. March 5, 2010.

Montana Bureau of Mines and Geology (MBMG). Montana Abandoned and Inactive Mines Database [vector digital data]. Montana State Library. Helena, Montana. January 9, 2006

Montana Department of Natural Resources and Conservation Water Resources Division. Montana Water Rights [vector digital data]. Montana State Library. Helena, Montana. July 11, 2011

Montana Fish, Wildlife & Parks. Montana Fish Distribution – Streams[vector digital data]. Montana Fish, Wildlife & Parks. Helena, Montana. May 17, 2010.

Montana Fish Wildlife and Parks. *Rating Summaries for the Prioritization of Tributaries of the Upper Clark Fork River Basin for Fishery Enhancement Draft Final.* May, 2010.

Montana Fish Wildlife and Parks. *An Assessment of Fish Populations and Riparian Habitat in Tributaries of the Upper Clark Fork River Basin (*Phase II). March, 2009

Montana Fish, Wildlife & Parks. River Mile Locations (Tenth Mile Intervals) [vector digital data]. January 30, 2008.

Montana Natural Resources Conservation Service State Office. (6th-code) Hydrologic Units Montana Subwatershed [vector digital data]. Montana Natural Resources Conservation Service. Bozeman, Montana. 2007

U.S. Census Bureau Geography Division. Montana Roads from TIGER/Line Files (Redistricting Census 2000)[vector digital data. Montana State Library. Helena, Montana. 2001.

U.S. Department of Commerce U.S. Census Bureau, Geography Division. Montana TIGER/Line Files, UA Census 2000 [vector digital data]. Montana State Library. Helena, Montana. 2002.

U.S. Geological Survey. National Elevation Dataset for Montana [raster digital data]. Montana State Library. Helena, MT. April 1, 2002.