

UPPER GILA RIVER WATERSHED

(HUC 15040001)

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UPPER GILA (HUC 15040001)

The Gila River mainstem from the confluence with Mogollon Creek to the headwaters, and all tributaries upstream of and including Mogollon Creek.

Designated uses by reach within HUC 15040001

Gila mainstem, from the confluence with Mogollon Creek upstream to the confluence of West and East Forks of the Gila River: industrial water supply, irrigation, livestock watering, wildlife habitat, warmwater and marginal coldwater aquatic life, primary contact.

WQS Section 20.6.4.502

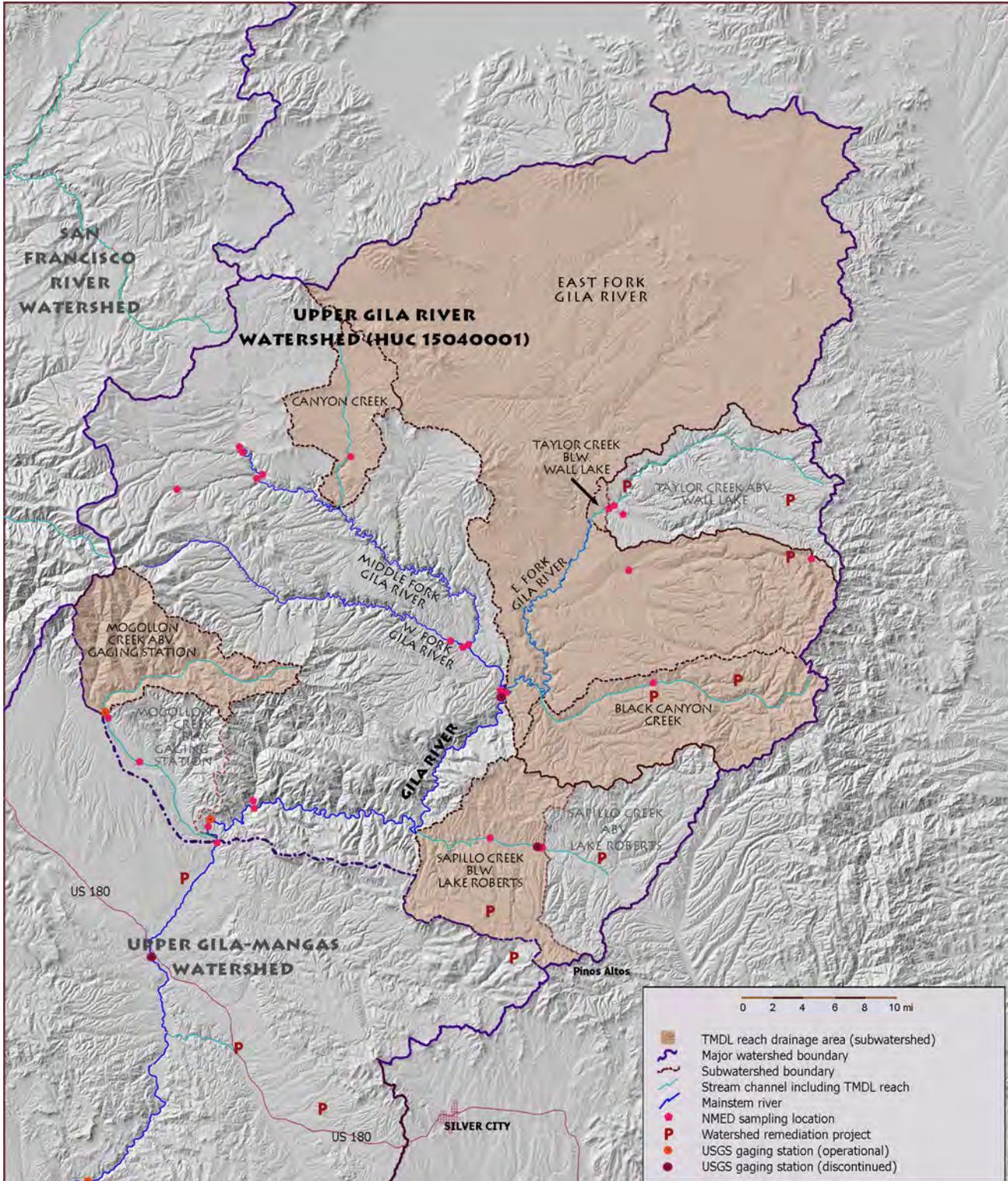
All perennial tributaries [including the East and West Forks, Gila River] upstream of and including Mogollon Creek: domestic water supply, irrigation, high quality coldwater aquatic life, wildlife habitat, livestock watering, secondary contact.

WQS Section 20.6.4.503

Lake Roberts, Snow Lake, and Wall Lake: irrigation, coldwater aquatic life, wildlife habitat, livestock watering, and secondary contact: coldwater aquatic life, irrigation, livestock watering, wildlife habitat, and secondary contact.

WQS Section 20.6.4.504

Link to WQS: <http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0004.pdf>



Map TMDL-01. Subwatersheds for water-quality impaired (TMDL) stream segments on the Upper Gila watershed (HUC 15040001). All NMED water-quality sampling sites are shown; see Map 4 for stream segments not named here. Locations of USGS gaging stations for current or historic streamflow data are also shown. On some streams, water quality data indicate that contaminant loads significant enough to impair designated uses occur only on particular segments (e.g., Mogollon Creek, Taylor Creek). In these cases, the entire stream reach appears on the map, and the subbasin draining directly to the water-quality impaired reach (the TMDL drainage area) is distinguished from the remainder of the stream's watershed. The tables for each TMDL subwatershed in this section include information on remediation projects shown on the map.

BLACK CANYON CREEK SUBWATERSHED (EAST FORK GILA RIVER TO HEADWATERS)

TMDL reach length: 25.2 mi; **Subwatershed area:** 113 sq. mi.

Elevation range: 5700–9000 ft.

Watershed cover: 95% forested; 5% rangeland

Watershed management: >99% USFS (Wilderness RD); <1% private

Wilderness: ~102 sq. mi. (93%)

Counties [SWCDs]: Grant [Grant], Sierra [Sierra]

TMDL: http://www.nmenv.state.nm.us/swqb/Temperature_TMDL_in_Black_Canyon_Creek_11-05-01.pdf

Record of Decision: <http://www.nmenv.state.nm.us/wqcc/303d-305b/2004/AppendixB/2004-2006ROD.pdf>

WQS reference: <http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0004.pdf> (Section **20.6.4.503**)

TMDL parameter exceeded: Temperature

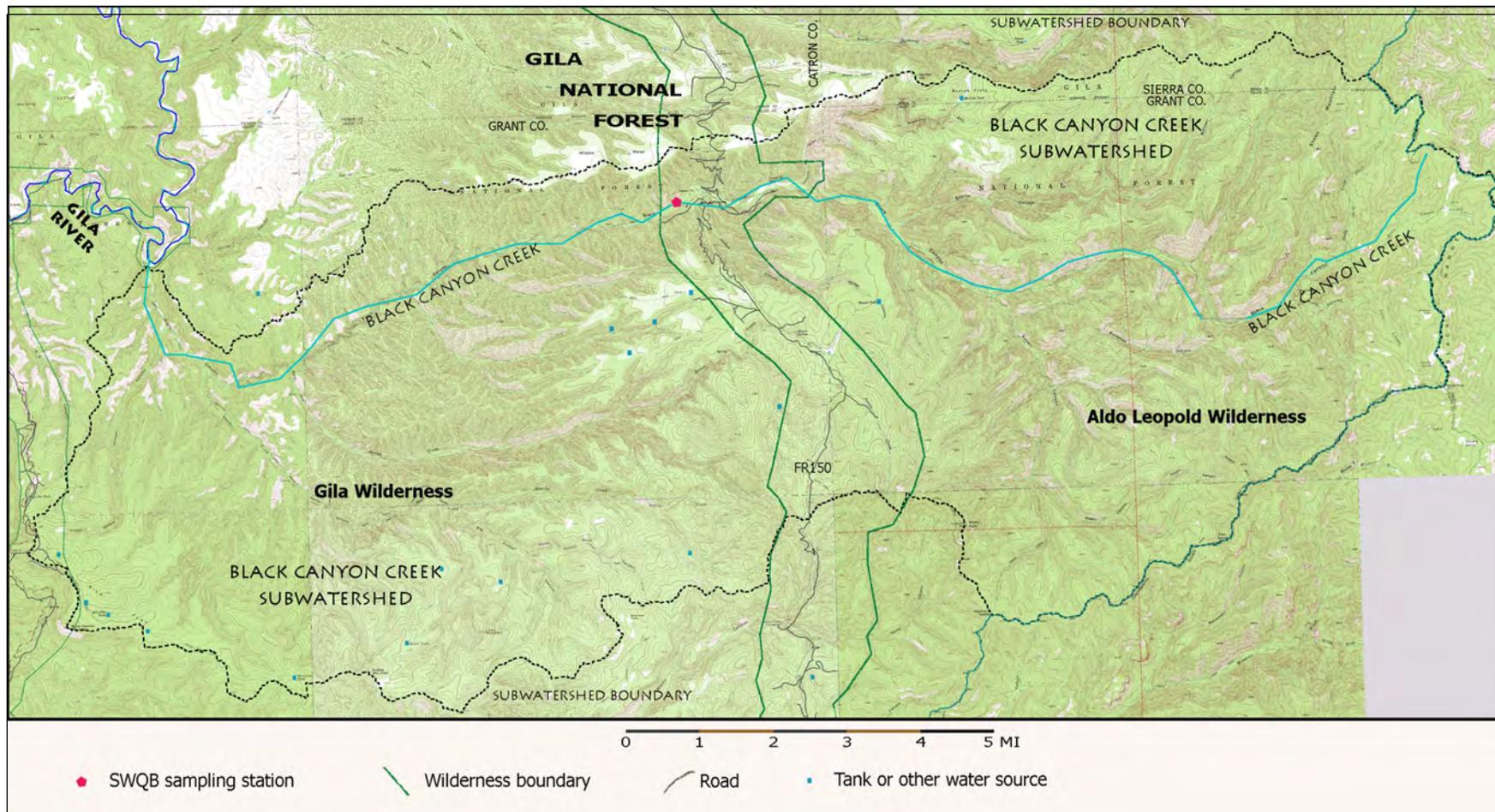
Current exceedance: 37% of readings exceeded 20° C standard

Unsupported use: high-quality coldwater aquatic life

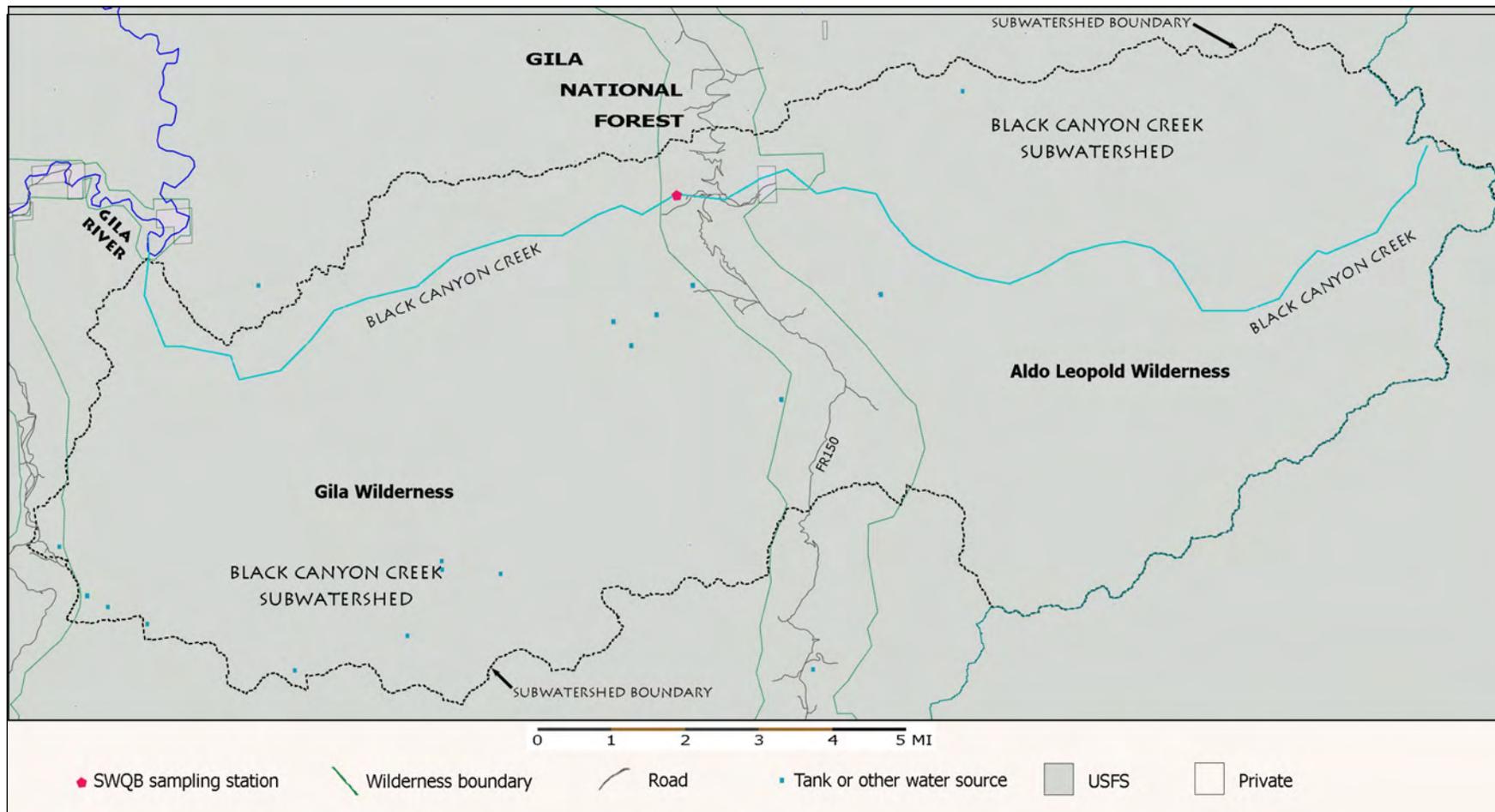
Possible mechanisms	Action (identification of MPs)	Possible MPs
<p>Loss of riparian shade cover Inhibited riparian regeneration Reduced base flow due to increased floodplain evaporation/infiltration rates Grazing* and silviculture (historic fire suppression); consequent reduction in herbaceous cover; increased sediment runoff to channel Extreme runoff events after catastrophic fire (e.g. 1995, 1996) causing increased width–depth stream morphology</p> <p>*No livestock grazing is currently permitted on the upper 75% of the watershed, and no term permit will be issued before ~ 2017.</p>	<p>Proposed, October 2006: Evaluate trail and road impacts Evaluate herbaceous cover Evaluate stream banks and morphology Design/implement fish barrier improvements</p> <p>Other: Evaluate grazing activities in lower 25% of watershed (ongoing by The Nature Conservancy/Headwaters Ranch) Evaluate road and recreation impacts, including in-stream vehicular traffic & campground (GNF & partners in travel planning)</p>	<p>Proposed, October 2006: Near-channel pole/post/herbaceous plantings In-channel structures (decrease width-depth ratios) Fish barrier improvements</p> <p>Other: Fencing (elk) Grazing management (Sapillo allotment) Prescribed burning to increase herbaceous cover (NEPA under development by Trout Unlimited, GNF) Road realignment; culvert and trail improvements; OHV closures Brush layer, filter strip; other floodplain remediation</p>

BLACK CANYON CREEK SUBWATERSHED (EAST FORK GILA RIVER TO HEADWATERS)—continued

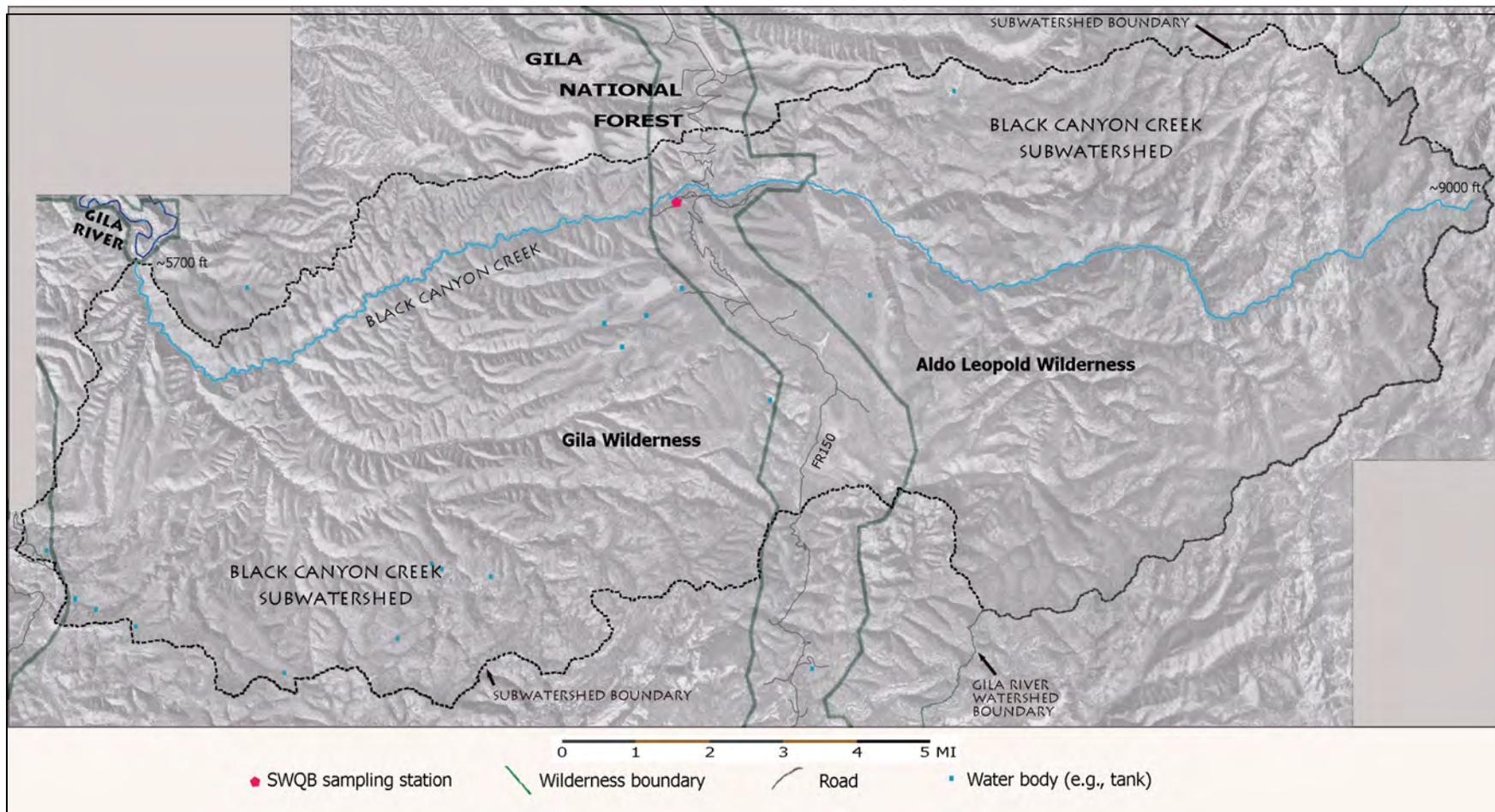
Milestones	Schedule	Target criteria
Develop and submit initial work proposal (GWP) Obtain funding; complete initial project work; establish monitoring protocols Document existing canopy; vegetative cover; road, trail, vehicle, and campground impacts NEPA for silviculture improvements in place (GNF, TU) Prescribed burning plan complete Travel management planning finalized (GNF & partners) Future work plans developed: burning, road improvements/closures Costs and funding sources ID'd	2006 2007 2007 2009 GNF, USFWS schedule 2008? Dependent on above Dependent on above	Increase stream shade canopy from 60% to 75% Increase total vegetative cover on streambanks by 20% Decrease width-depth ratio by 40% Increase herbaceous cover on treated forested areas by 30% Reduce temperature exceedances to < 10%
<p>Monitoring (suggested monitoring protocols are described in Section 6):</p> <ul style="list-style-type: none"> ▪ Regular NMED/SWQB monitoring and sampling at established stations ▪ Riparian cover density measured over three years; photo points; channel morphology baseline and changes ▪ Prescribed burning: protocols for tree cover density, line-point intercept for herbaceous cover ▪ Road management: HEM, RUSLE ▪ Long-term volunteer monitoring programs under development to document riparian condition, water quality, nonpoint source contributions <p>Note. Gila trout, a listed species, have been reintroduced to Black Canyon Creek.</p>		



Map TMDL-02. Topographic map, Black Canyon Creek subwatershed. Base image from USGS 1: 24000 quads. All data from USGS, NMED, and USFS Gila National Forest.

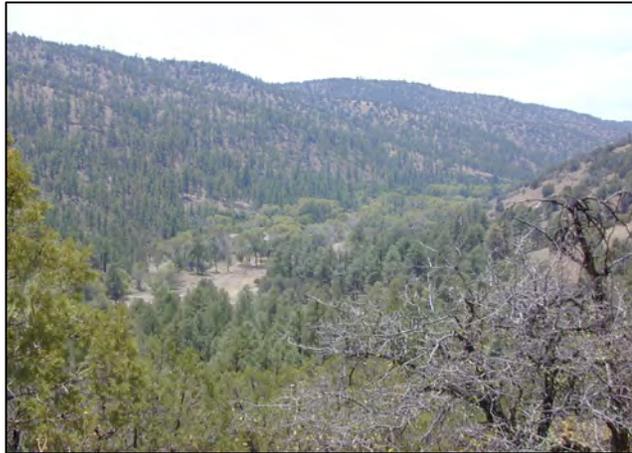


Map TMDL-03. Land management status map, Black Canyon Creek subwatershed. All data from NMED, USGS and USFS Gila National Forest.



Map TMDL-04. Aerial photography relief map, Black Canyon Creek subwatershed. Base image: 1996-2002 USGS digital orthophotoquads. All data from NMED, USGS and USFS Gila National Forest.

BLACK CANYON CREEK—continued



**Black Canyon Creek photos. Clockwise from upper left:
Downstream from FR150, June 2006; at campground, June
2006; road through campground, April 2001. 2001 photo
courtesy NMED, Silver City.**