TAYLOR CREEK SUBWATERSHED BELOW WALL LAKE

TMDL reach length: 2.6 mi; **Subwatershed area:** 3.2 sq. mi. (to Wall Lake); 102 sq. mi. total
Elevation range: 6200–9000 ft.
Watershed cover: 99% forested; <1% rangeland; <1% agriculture
Watershed management: 99% USFS (Black Range RD); < 1% private
Wilderness: ~9 sq. mi. (9%)
Counties [SWCDs: Catron [San Francisco]; Sierra [Sierra].
TMDL: http://www.nmenv.state.nm.us/swqb/Temperature_TMDL_for_Taylor_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: 52% of readings exceeded 20°C standard

Unsupported use: high-quality coldwater aquatic life

Possible mechanisms	Action (identification of MPs)	Possible MPs
Warming and evaporative effects due to Wall Lake impoundment Increased sediment inputs from Wall Lake during overtopping events; effects on channel width–depth ratios downstream of reservoir Loss and inhibited regeneration of riparian shade cover; encroachment of upland species onto floodplain Reduced base flow due to increased floodplain evaporation/infiltration rates Grazing/silviculture practices (historic fire suppression); consequent reduction in herbaceous cover; increased overland sediment runoff Campground recreation/road impacts	Proposed in the Taylor Creek WRAS*: Evaluate stream bank vegetative cover density, upland encroachment; bank stability Evaluate road and recreation impacts (travel management planning) Evaluate historic forest encroachment and potential thinning treatments in conjunction with GNF planning efforts Evaluate grazing plans Evaluate sediment reduction potential via Wall Lake dredging	Filter strips, brush mats, herbaceous or pole/post plantings on streambanks Stream barbs/bioengineering techniques Road realignments and/or drainage improvements, including campground Continuation of GNF thinning/prescribed burning projects (particularly in conjunction with biomass use projects) Meadow reclamation; native ground cover re-seeding Livestock/elk grazing management strategies Wall Lake dredging

TAYLOR CREEK SUBWATERSHED (WALL LAKE TO BEAVER CREEK)—continued

TMDL reach length: 2.6 mi; **Subwatershed area:** 3.2 sq. mi. (to Wall Lake); 102 sq. mi. total
Elevation range: 6200–9000 ft.
Watershed cover: 99% forested; <1% rangeland; <1% agriculture
Watershed management: 99% USFS; < 1% private
Wilderness: ~9 sq. mi. (9%)
Counties [SWCDs: Catron [San Francisco]; Sierra [Sierra].
TMDL: http://www.nmenv.state.nm.us/swqb/Chronic_Aluminum_TMDL_in_East_Fork_of_Gila_River_and_Taylor_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: Chronic aluminum

Current exceedance: Aluminum standard exceeded by 331 lbs/day (719%)

Unsupported use: high-quality coldwater aquatic life

Possible mechanisms	Action (identification of MPs)	Possible MPs
Increased sediment inputs from Wall Lake during overtopping events Wetland and riparian loss; reduced uptake of solutes by root systems Grazing/silviculture practices (historic fire suppression); consequent reduction in herbaceous cover; increased overland sediment runoff Campground recreation/road impacts	Proposed in the Taylor Creek WRAS*: Target areas for improved stream bank vegetative cover density and bank stability measures, reduction in upland species encroachment Evaluate historic forest encroachment and potential thinning treatments in conjunction with GNF planning efforts Evaluate grazing plans Evaluate road and recreation impacts (travel management planning) Evaluate sediment reduction potential via Wall Lake dredging Other: Evaluate wetland potential for increased filtration of sediments	Filter strips, brush mats, herbaceous or pole/post plantings on streambanks Stream barbs/bioengineering techniques Road realignments and/or drainage improvements, including campground Continuation of GNF thinning/prescribed burning projects (particularly in conjunction with biomass use projects) Meadow reclamation; native ground cover re-seeding Livestock/elk grazing management strategies Wall Lake dredging Wetland reclamation or construction (filtration)

TAYLOR CREEK SUBWATERSHED (WALL LAKE TO BEAVER CREEK)—continued

Milestones	Schedule	Target criteria
Collaborative project development among private and agency stakeholders	Complete/ongoing	Temperature: Post-dredging increase in Wall Lake water depth
Floodplain vegetation thinning (upland species)	Ongoing	Increase of 10% in riparian canopy cover
Reseeding of abandoned agricultural areas	Ongoing	Decrease of 5% in sediment runoff from treated areas
Initial streambank stabilization, plantings complete	Complete	Average water temperature reduction of 20%
Pasture fencing and additional watering devices constructed (grazing management)	2009-2012	Aluminum: Decrease of 5% in sediment runoff from treated areas
NEPA and other planning complete for prescribed burning measures	GNF scheduling	Increase of 10% in riparian vegetation density (herbaceous and/or woody)
Most effective management measures for road/recreation impacts identified	Ongoing	Potential wetland remediation sites identified
Identify costs and funding sources; develop proposals	Ongoing (travel management planning)	Average load reduction of 25%
	2007-2015	

Monitoring:

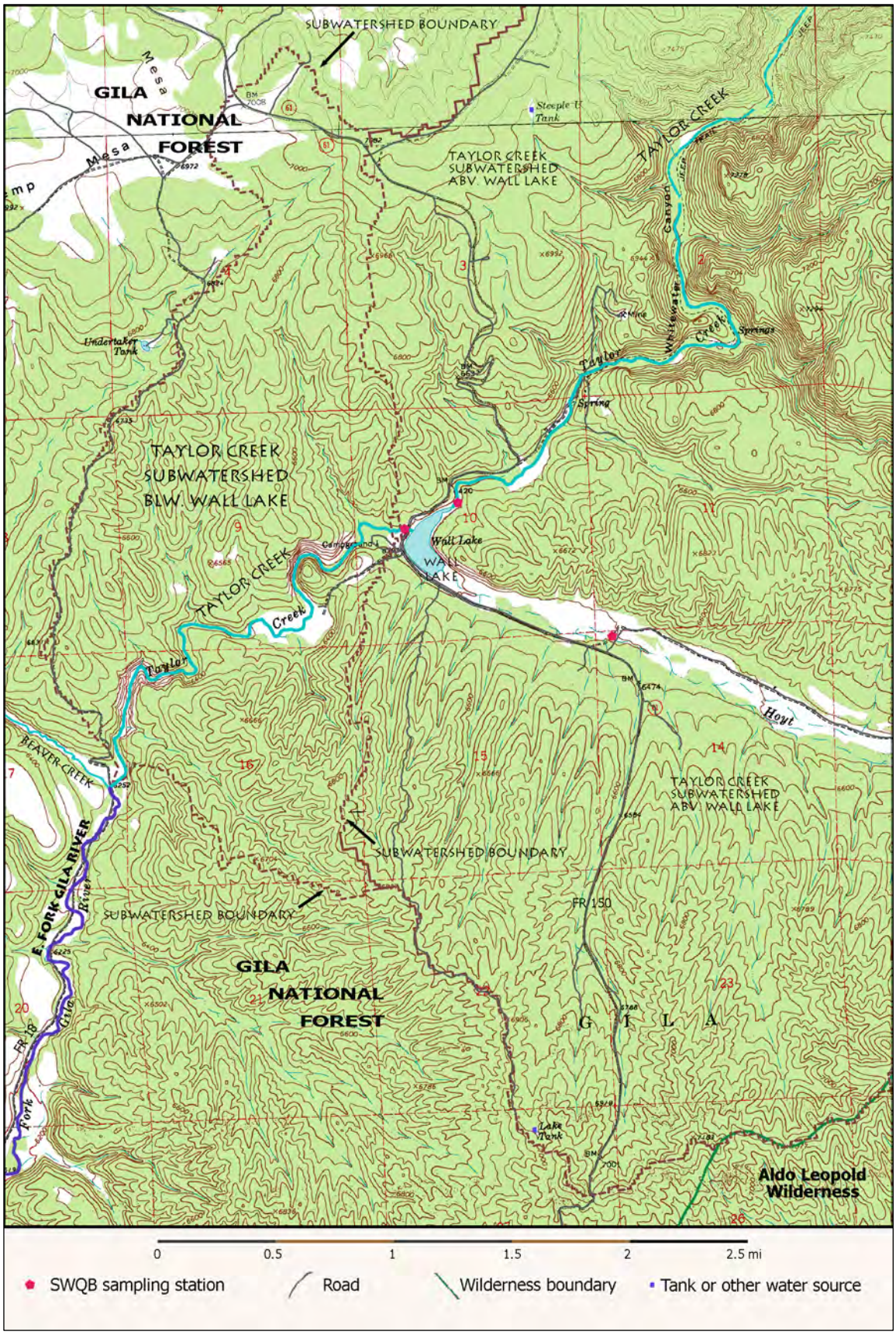
Programs in place:

- Beaverhead Terrestrial Ecosystem Survey (TES) and PSIAC surveys: assist in evaluating potential sediment yield/runoff
- Range/allotment assessments by GNF
- GNF Fire Regime Condition Class (FRCC) mapping of vegetation conditions
- NM Extension Service riparian grazing trials
- Standard NMED/SWQB water quality monitoring/sampling

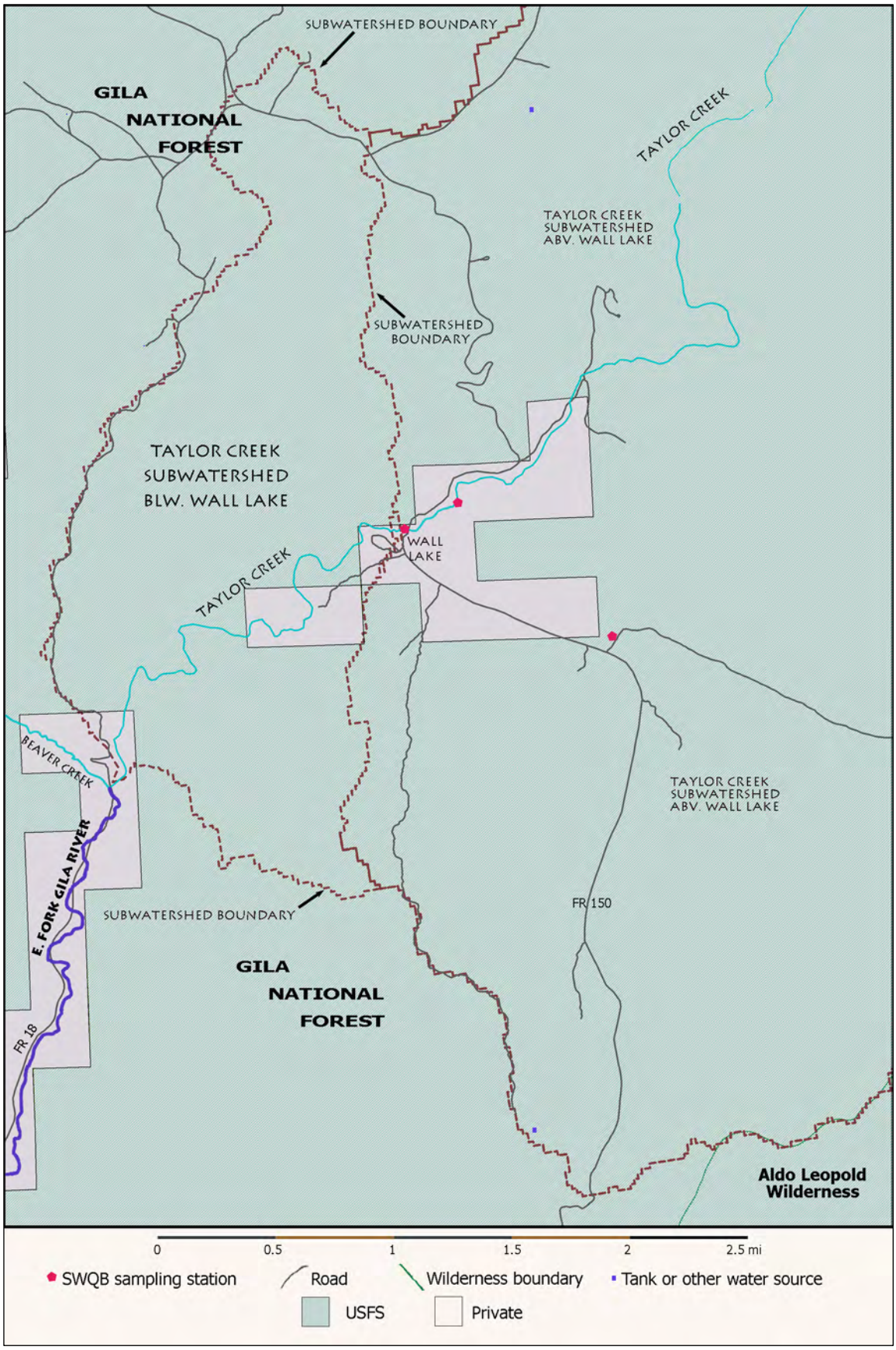
Additional monitoring components:

- Stakeholder/volunteer monitoring via photo points and temperature thermographs
- HEM/RUSLE modeling
- Vegetative cover baseline/change measurements

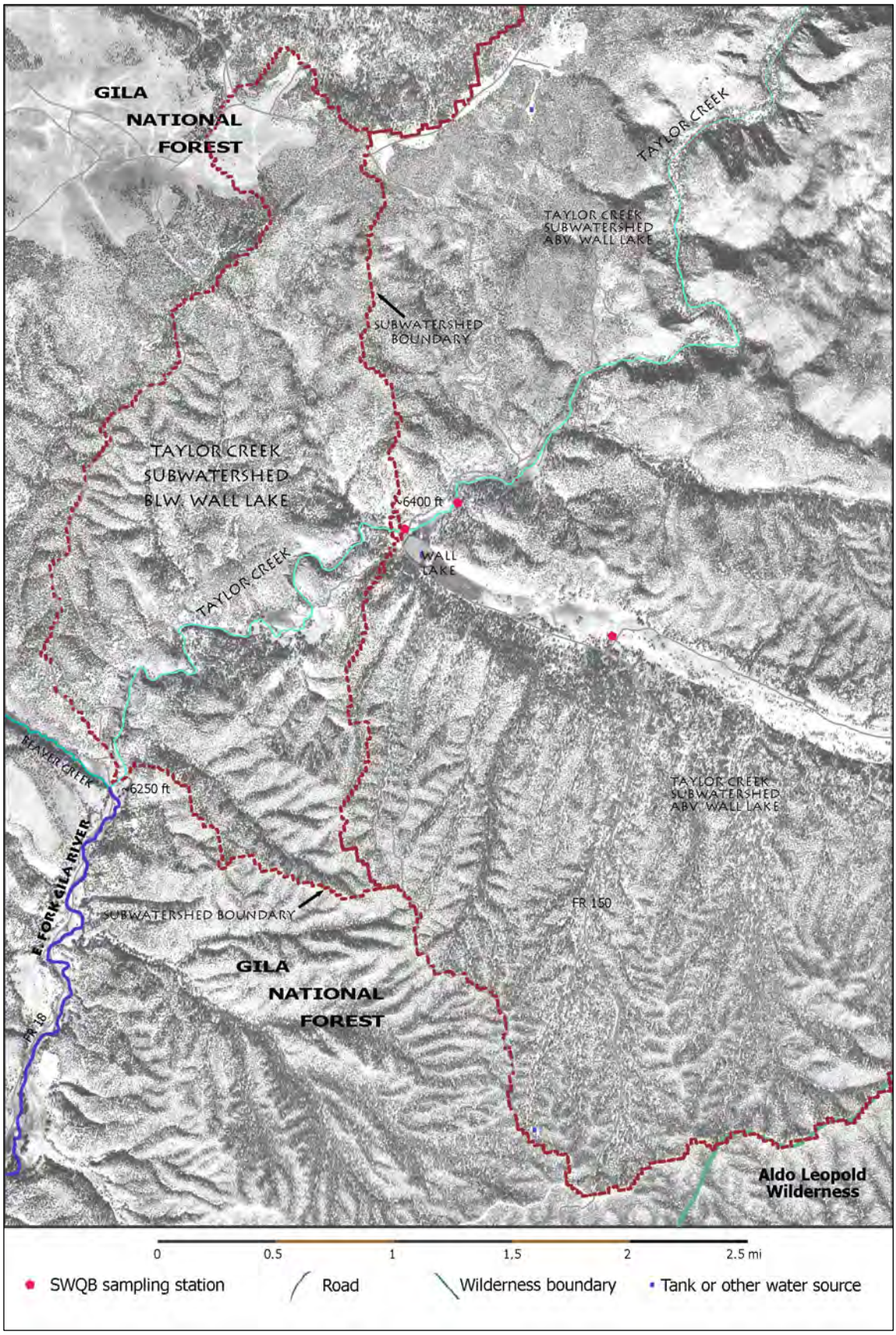
* The Taylor Creek Watershed Committee *WRAS* (July 2005), can be accessed at: http://www.nmenv.state.nm.us/swqb/wps/WRAS/Taylor_Creek_15040001_WRAS_July_2005.pdf



Map TMDL-20. Topographic map, Taylor Creek subwatershed below Wall Lake. Base image: USGS 1:24000 quads. All data from NMED, USGS, and USFS Gila National Forest.



Map TMDL-21. Land management status map, Taylor Creek subwatershed below Wall Lake. All data from NMED, USGS, and USDA Gila National Forest.



Map TMDL-22. Aerial photography relief map, Taylor Creek subwatershed below Wall Lake. Base image: 1996–2001 USGS digital orthophotoquads. All data from NMED, USGS, and USDA Gila National Forest.

TAYLOR CREEK—continued

Taylor Creek photos: Top row, left to right: Taylor Creek before (left) and after (center) installation of stream barbs, September 1999; deposition of fines and stream bank vegetation recovery at barb site after floods in August 2004 (right). Bottom left: Taylor Creek immediately downstream of Wall Lake spillway at FR 150, June 2006. Bottom right: Wall Lake at FR 150, June 2006. Top row photos courtesy NRCS (2005).

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