

West Fork								
Name	Source	Description	Receiving Water	Current nitrogen load to aquifer	Relative mitigatable fraction	Estimated Mitigation impact on stream	Dollar per Lb. N removed from stream (High/Med/Low)	Notes:
<b>Ongoing Monitoring</b>								
Water Quality	-	Continued long term monitoring of water quality and stream health	-	-	-	-	-	Increasing the available TN dataset, while continuing nitrate analysis will enable better assessment of pollution sources and estimation of total nutrient loads.
Water Quantity	-	Continued monitoring of steam flow rates	-	-	-	-	-	Good stream flow data enables total nutrient load estimation and can help indicate gaining sections
<b>Current Source Mitigation Projects</b>								
Big Sky WRF Upgrade	Municipal Wastewater	WRF Upgrade	West Fork	Very High	Med	Very High	High	Significant existing and future load mitigation.
<b>Potential Source Mitigation Projects</b>								
Firelight	Private Wastewater	Enhanced decentralized treatment or central collection	West Fork	Med	Med-Low	Med-Low (potentially High)	Med	Fate/Transport conditions unknown
LMR Stables	horse manure	Waste removal and/or biosolids handling	West Fork	Med	High	Med	Low	Between 100 lbs./yr. and 1000 lbs./year based on simplified water quality data back calculation
Antler Ridge	Private Wastewater	Enhanced decentralized treatment or central collection	West Fork	Low	High	Low	Med	Single point load, close to river which minimizes potential for subsurface removal processes.
Septic Maintenance District	Private Wastewater	Improved, operation, maintenance and replacement	West Fork/Gallatin	Low	Low	Low	Low	Critical to mitigate future load
Wastewater polishing wetlands	Municipal Wastewater	WRF Upgrade: engineered wetland using land on Golf Course	West Fork/Gallatin	High	Med	High	Med	Potential to reduce WRF effluent from <5mg/l to <3mg/l
Stormwater Management	Urban and golf course runoff	Identify strategically placed stormwater BMPs to mitigate existing loads, promote improved water quality design for future BMPs	West Fork/Gallatin	N/A	Med	Med - High	Low-Med	Engineered wetland retrofits in detention ponds, infiltrative "rain gardens" as urban retrofits, promote future infiltrative/water quality based infrastructure, vegetative filter strips, street sweeping, general public outreach, etc.
<b>Groundwater Mitigation Projects</b>								
Chapel Spring	Existing and Future Groundwater load	Engineered Wetland	West Fork	N/A	Med	High	Med	Flow rate dependent (TBD)
Artesian Spring testing down gradient of Golf Courses	Existing and Future Groundwater load	Assess artesian springs down gradient of Spanish Peaks and Yellowstone Club Golf Courses to determine if sizeable loads exists and mitigate the load.	West Fork	N/A	Med	High	Med	If leaching from the courses is significant, enhancing riparian function, or installing treatment wetlands in the receiving small streams could reduce stream load
Golf Course operations assessment / lateral water interception	Anthropogenic N from Golf course operation	Better assess irrigation, fertilizer and maintenance regimes. Install stormwater / lateral flow interception wetland strips to mitigate excess nitrate	West Fork	N/A	Med	Med - High	Low-Med	Golf course operations / management could be a large source of nitrate and little information was available
Groundwater treatment	Existing and Future Groundwater load	Riparian area enhancement, permeable reactive barriers (i.e. engineered wetlands), and/or subsurface carbon injection, maximizing nitrate removal prior to surfacing in the stream.	West Fork	N/A	Med	Very High	Med-High	There is a large pool of nitrate in the subsurface that will move into the West Fork over the next decade. Fueling denitrification prior to entering stream water can effectively reduce loading.
Stormwater management	Urban and golf course runoff	Identify strategically placed stormwater BMPs to mitigate existing loads, promote improved water quality design for future BMPs	West Fork/Gallatin	N/A	Med	Med - High	Low-Med	Engineered wetland retrofits in detention ponds, infiltrative "rain gardens" as urban retrofits, promote future infiltrative/water quality based infrastructure, vegetative filter strips, street sweeping, general public outreach, etc.
				Units: lbs. N per year > 10,000 Very High 5,000 - 10,000 High 1,000 - 5,000 Med < 1,000 low	> 70% of aquifer load - High 25- 70% of aquifer load - Med <25% of aquifer load - low	Units: lbs. N per year > 1,000 Very High 500 - 1000 High 250 - 500 Med <250 low	High = \$1000-\$10,000 per lb. Med = \$100-\$1000 per lb. Low = \$10-\$100 per lb.	