

APPENDIX F

Water Quality Improvements

Water quality improvements have resulted in pollutants no longer impairing an assessment unit. Each is a success story! Significant resources have been used to identify sources and control pollutant contributions in each case.

These water quality improvements are dependent on continued application of the improvement noted in this table. Therefore, decision makers about future activities in the watershed or additional discharges need to be aware and continue to support these improvements.

Colorado - Lower Gila Watershed

Lake Havasu (Thompson Bay)	15030101-0590	19,780 acres
<i>E. coli</i> bacteria Delisted in 2002; first listed in 1996	<ol style="list-style-type: none"> 1. Improved sanitary facilities at beaches. 2. Public education concerning marine wastewater disposal. 3. Improvements in public wastewater treatment facilities to reduce nutrient loading. 4. Improvement in flow into Thompson Bay under London Bridge. 	No remaining impairments
Painted Rock Borrow Pit	15070201-1010	185 acres
Pesticides in fish tissue Delisted in 2014; first listed in 1988	General use of the pesticide dieldrin and DDT banned No remaining impairments	

Little Colorado Watershed

Nutrios Creek	15020001-017A	Headwaters to Nelson Reservoir	13.3 miles
Turbidity Delisted in 2006; first listed in 1992	Cattle removed from the riparian area through addition of fencing and alternative sources of water. Riparian area improvements noted. TMDL approved in 2002. No remaining impairments		

Middle Gila Watershed

Gila River	15070101-001, 005, 007, 008, 009, 010, 014, 015	Salt River to Painted Rock Reservoir	82.5 miles
Pesticides in fish tissue Delisted in 2014; first listed in 1988	General use of the pesticide dieldrin and DDT banned		
Hassayampa River	15070101-001B	Buckeye Canal to Gila River	2.3 miles
Pesticides in fish tissue Delisted in 2014; first listed in 1998	General use of the pesticide dieldrin and DDT banned No remaining impairments		
Mineral Creek	15050100-012B	Devils Canyon to Gila River	19.6 miles
Beryllium, zinc, and low pH Delisted in 2004; first listed in 1992	Mineral Creek is diverted around a large mining operation. Monitoring surface water quality to assure this is sufficient to protect water quality in the stream. Listed in Category 5 for other pollutants		

Middle Gila Watershed - continued

Painted Rock Reservoir	15070101-1020A	100 acres	
Pesticides in fish tissue	General use of the pesticide dieldrin and DDT banned		
Delisted in 2014; first listed in 1988	No remaining impairments		
Salt River	15060106B-001D	23rd Avenue WWTP to Gila River	14.1 miles
Pesticides in fish tissue	General use of the pesticide dieldrin and DDT banned		
Delisted in 2014; first listed in 1988	No remaining impairments		

Salt Watershed

Christopher Creek	15060105-353	Lower Pinal Creek WTP to Salt River	6.4 miles
Phosphorus	Through ADEQ Water Quality Improvement Grant (WQIG) funding and other projects, septic system upgrades were made throughout the impaired watershed.		
Delisted in 2016; first listed in 2006			
Pinal Creek	15060103-280D	Lower Pinal Creek WTP to Salt River	6.4 miles
Copper, manganese, zinc, and low pH	Ground water is pumped so that surface water flow discontinues (flow was intermittent originally in this area). The water is treated and pumped back into the stream, providing clean perennial flow.		
Delisted in 2002; first listed in 1988	No remaining impairments		
Tonto Creek	15060105-013A	Headwaters to 341810/1110414	8.1 miles
Nitrogen	15060105-013B	341810/1110414 to Haigler Creek	8.5 miles
Delisted in 2016; first listed in 2004	Through ADEQ Water Quality Improvement Grant (WQIG) funding and other projects, septic system upgrades were made throughout the impaired watershed. AGFD also made several upgrades to the facility. These projects working in concert with each other were effective in reducing total nitrogen loads in Tonto Creek.		

San Pedro Watershed

Mule Gulch	15080301-090B	Lavender Pit to former Bisbee WWTP	0.8 miles
Dissolved zinc, dissolved copper and low pH	15080301-090C	Bisbee WWTP to Highway 80 Bridge	3.8 miles
Delisted in 2014; first listed in 1998	Recent water quality data has shown that the concentrations of dissolved metals have declined and pH has risen within Mule Gulch. Freeport McMoRan Corporation (FMC) has implemented several projects within the last decade that have improved conditions in Mule Gulch.		

Santa Cruz Watershed

Santa Cruz River	15050301-009	Nogales WWTP to Josephine Canyon	9.1 miles
Total residula chorline, ammonia, cadmium	Improvements made in 2009 to the Nogales International Waste Water Treatment Plant have improved the effluent quaity and the Santa Cruz River. The reach is now attaining the applicable chlorine, ammonia and cadmium water quality standards.		
Delisted in 2016; first listed in 2010 and 2012/14			

Santa Cruz Watershed- continued

Santa Cruz River	15050301-003B	Roger Road WWTP Outfall to Intermittant Reach	2.9 miles
Ammonia	Piima County replaced the Roger Road WWTP with the Agua Nueva WRF in 2013 resulting in the reach now attaining the applicable ammonia water quality standards.		
Delisted in 2016; first listed in 2010	No remaining impairments		
Santa Cruz River	15050303-005A	HUC 150303 Boundary to Baumgartner Rd	14.5 miles
Dissolved copper	Ina Road WWTP was replaced by Tres Rios WRF in 2013. There were no copper exceedances in the post-upgrade water quality data.		
Delisted in 2016; first listed in 2010	No remaining impairments		

Verde Watershed

Munds Creek	15060202-415	Headwaters to Oak Creek	17.0 miles
<i>E. coli</i> bacteria, nitrogen and phosphorus	Wastewater reuse applications modified to keep effluent from contaminating Munds Creek.		
Delisted in 2002; first listed in 1994	No remaining impairments		
Ashbrook Wash	15060203-989	Grande Wash to Verde River	2 miles
<i>E. coli</i> bacteria	Wastewater treatment plant no longer discharging to this wash.		
Delisted in 2006; first listed in 2004	No remaining impairments		
Verde River	15060202-037, 025, 015, 15060203-027, 025	Unnamed Trib (15060202-065) - Fossil Creek	78.1 miles
Turbidity	Turbidity TMDL completed in 2002. Best management practices are implemented to minimize the impact of grazing and reduce soil erosion.		
Delisted in 2010; first listed in 1990	No remaining impairments		