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

E. coli bacteria
Delisted in 2002;
first listed in 1996

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

Nutrioso 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 82.5 miles
Salt River to Painted Rock Reservoir

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

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Middle Gila Watershed - continued

Painted Rock Reservoir
Pesticides in fish tissue
Delisted in 2014;
first listed in 1988

15070101-1020A 100 acres

General use of the pesticide dieldrin and DDT banned
No remaining impairments

Salt River
Pesticides in fish tissue
Delisted in 2014;
first listed in 1988

15060106B-001D 23rd Avenue WWTP to Gila River 14.1 miles

General use of the pesticide dieldrin and DDT banned
No remaining impairments

Salt Watershed

Christopher Creek
Phosphorus
Delisted in 2016;
first listed in 2006

15060105-353 Lower Pinal Creek WTP to Salt River 6.4 miles

Through ADEQ Water Quality Improvement Grant (WQIG) funding and other projects, septic system upgrades were made throughout the impaired watershed.

Pinal Creek
Copper, manganese, zinc, and low pH
Delisted in 2002;
first listed in 1988

15060103-280D Lower Pinal Creek WTP to Salt River 6.4 miles

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.
No remaining impairments

Tonto Creek
Nitrogen
Delisted in 2016;
first listed in 2004

15060105-013A Headwaters to 341810/1110414 8.1 miles
15060105-013B 341810/1110414 to Haigler Creek 8.5 miles

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
Dissolved zinc, dissolved copper and low pH
Delisted in 2014;
first listed in 1998

15080301-090B Lavender Pit to former Bisbee WWTP 0.8 miles
15080301-090C Bisbee WWTP to Highway 80 Bridge 3.8 miles

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
Total residula chorline, ammonia, cadmium
Delisted in 2016;
first listed in 2010 and 2012/14

15050301-009 Nogales WWTP to Josephine Canyon 9.1 miles

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.

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Santa Cruz Watershed- continued

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

Verde Watershed

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

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