Upper Gila Watershed

Watershed Description

The Upper Gila Watershed in Arizona is defined by the Gila River drainage area, from the New Mexico border to Coolidge Dam (San Carlos Reservoir). This 7,354 square mile watershed is occupied by only 51,500 people (2000 census), mostly living in the Safford and Clifton areas. Land ownership is approximately: 47% federal, 28% tribal, 15% state, and 10% private. Agriculture is a primary land use in the Safford area. Outside of this area, land use is primarily open range grazing and recreation, with a minor amount of forestry in the national forests. A major mining facility is located in the Clifton-Morenci area along the San Francisco River. Five wilderness areas and the Gila Box Riparian National Conservation Area are located in this watershed and have restricted uses.

Elevations range from 10,028 feet (above sea level) on Mount Graham to 2,990 feet at Coolidge Dam. Except for a few sky islands (mountains located in the desert), most of the watershed is below 5,000 feet, with low desert flora and fauna and warm water aquatic communities where perennial waters exist.

Water Resources

Precipitation is limited with only 10 inches of rain and up to 2 inches of snow in some locations. Perennial flow is limited to the Gila River above Safford, the San Francisco River and its tributaries, Eagle Creek, portions of Bonita Creek, the San Carlos River, and short segments of tributaries on Mount Graham and in the Chiricahua Mountains. In the Safford area, irrigated agriculture uses a high percentage of the Gila River flow.

An estimate of surface water resources in the Upper Gila Watershed is provided in the following table. Waters on Tribal lands are not assessed by ADEQ; therefore, those statistics are shown separately.

Estimated Surface Water Resources in the Upper Gila Watershed

	Perennial	Intermittent	Ephemeral
Stream miles	445	970	6,305
	Perennial	Non-perennial	
Lake acres	2,289	0	

Additional Surface Water Resources located on Tribal Land – Not Assessed

	Perennial	Intermittent	Ephemeral
Stream miles	105	50	3,795
	Perennial	Non-perennial	
Lake acres	9,523	11,119	

Ambient monitoring focuses on perennial waters; however, special investigations may identify water quality problems on intermittent and even ephemeral waters. Estimated miles and acres are based on USGS digitized hydrology at 1:100,000 and have been rounded to the nearest 5 miles or 5 acres.

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Assessments

The Santa Cruz Watershed can be separated into the following drainage areas (subwatersheds):

15040002	Mangus Creek Drainage Area
15040003	Animas Valley Drainage Area
15040004	San Francisco River Drainage Area
15040005	Upper Gila River Drainage Area
15040006	San Simon River Drainage Area
15040007	San Carlos River Drainage Area (Tribal Land – Not Assessed)

These drainage areas and the surface waters assessed as "attaining" or "impaired" are illustrated on the following watershed map. Methods used to complete these assessments are described in the "Surface Water Assessment Methods and Technical Support" document.

ED_013248_00000487-00002

BLUE RIVER (BLR)

KP Creek - Strayhorse Creek
15040004-025A
3.8 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGI - Attaining
AGL - Attaining • AWC - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	6/1/2015	260.3 cfu/100 mL	FBC is inconclusive with 1 exceedance in 4 samples.
SSC	25 mg/L	9/23/2014	54.6 mg/L	AWC is attaining. This exceedance occurred within 48 hours of a storm event and was excluded from assessment.

Monitoring Summary

Sampling period: 9/23/2014 - 6/1/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
DOWNSTREAM OF KP CREEK AT END OF BLUE RIVER ROAD	UGBLR028.77	110284	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more *E. coli* samples due to the exceedance. Use a lower reporting limit for dissolved cadmium - all 4 samples had reporting limits greater than chronic criteria.

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BLUE RIVER (BLR)

New Mexico border - KP Creek
15040004-026
21.419 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGI - Inconclusive
AGL - Attaining • AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Biocriteria	IBI ≥ 52 attaining IBI 46 - 51 inconclusive IBI ≤ 45 violating	7/8/2014	IBI 44	AWC is inconclusive. There was a previous violation in 2009. Impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.

Monitoring Summary

Sampling period: 10/9/2013 - 7/8/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT COLE FLAT	UGBLR030.24	106506	ADEQ	Ambient Monitoring
BELOW JACKSON BOX	UGBLR046.35	100419	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(5-7) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(6) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-6) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria
Missing Core Parameters	None
Missing Seasonal Distribution	Manganese
Lab Detection Limits Not Low Enough	Arsenic, cadmium (dissolved), lead, lead (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
High	There were two biocriteria standard violations (2009 and 2014) in this reach, but impairment decisions cannot be made until the Impaired Waters Identification Rule is updated. Collect additional samples to identify possible stressors on benthic macroinvertebrate communities.

ED_013248_00000487-00004

BLUE RIVER (BLR)

Strayhorse Creek - San Francisco River
15040004-025B
25.4 Miles

Category 5
Impaired

Upper Gila

IMPAIRMENT STATUS

E. coli (2006/8)

FC - Attaining • FBC - Impaired • AGI - Attaining
AGL - Attaining • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	16.9 ug/L chronic @ 210 mg/L hardness	9/13/2011	49 ug/L	AWW is inconclusive with 1 exceedance in 5 samples.
E. coli	235 cfu/100 mL	8/15/2011	3629.4 cfu/100 mL	FBC remains impaired. No data in the last 3 years of assessment.
SSC	80 mg/L	8/15/2011	1039.95 mg/L	AWW is attaining. This exceedance occurred within 48 hours of a storm event (NWS observed precipitation for 8/14/11 shows widespread, heavy rainstorms).
Selenium	2 ug/L	8/15/2011	6.61 ug/L	AWW is attaining. This exceedance occurred during a storm event, which does not represent chronic conditions.

Monitoring Summary

Sampling period: 8/15/2011 - 5/15/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT JUAN MILLER ROAD CROSSING	UGBLR008.19	100398	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-5) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, zinc	(5) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-5) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper (dissolved)
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Mercury (dissolved)

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Priority	Monitoring Recommendations
High	Collect more *E. coli* samples to support TMDL development/effectiveness monitoring. Collect more dissolved copper samples due to the exceedance.

Impairment Discussion
Remains impaired for *E. coli* (2006/8). The Watershed Implementation Plan was completed in 2012.

ED_013248_00000487-00006

BOB THOMAS CREEK

Headwaters - Stone Creek
15040004-1125
1.309 Miles

Category 3
Inconclusive

Upper Gila

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	6/11/2014	410 cfu/100 mL	FBC is inconclusive with 1 exceedance.

Monitoring Summary

Sampling period: 6/11/2014 - 6/11/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR ALPINE	UGBTH001.03	110002	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more *E. coli* samples due to the exceedance. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00007

BONITA CREEK

Park Creek - Gila River
15040005-030
14.593 Miles

Category 2
Attaining some uses

DWS - Attaining • FC - Attaining • FBC - Attaining
AGL - Attaining • AWW - Inconclusive

Use Supported

No Exceedances

Monitoring Summary

Sampling period: 10/30/2012 - 3/23/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE GILA RIVER	UGBON000.17	100185	ADEQ	Ambient Monitoring
AT LEE'S TRAIL NEAR SOLOMON USGS 09447800	UGBON006.41	100421	ADEQ	Ambient Monitoring
BELOW GOAT CANYON	UGBON002.00	109662	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(6) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(6) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-6) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Antimony (dissolved), arsenic (dissolved), cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	AWW is inconclusive due to one biocriteria sample not meeting the 25th percentile threshold (inconclusive). Collect a verification sample to verify status. The biocriterion is met for another sample collected at a different site (UGBON006.41) on 5/7/13.

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CAMPBELL BLUE CREEK

Headwaters - Blue River
15040004-028
19.653 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGL - Attaining
AWC - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	9.7 ug/L chronic @ 110 mg/L hardness	10/26/2011	17 ug/L	AWC is inconclusive with 1 exceedance in 8 samples. This exceedance occurred a few months after the Wallow Fire (May-July 2011).
Biocriteria	IBI ≥ 50 attaining IBI 40 - 49 inconclusive IBI ≤ 39 violating	6/19/2012	IBI 32	AWC is attaining. Biocriterion was met in the most recent sample.

Monitoring Summary

Sampling period: 9/12/2011 - 6/18/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE KE CANYON	UGCMB004.23	100522	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper (dissolved)
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more copper samples due to the exceedance. Use lower reporting limits for dissolved copper and dissolved cadmium.

ED_013248_00000487-00009

CAVE CREEK

Headwaters - South Fork Cave Creek
15040006-852A
7.5 Miles

Category 5
Impaired

IMPAIRMENT STATUS

Selenium (2004)

FC - Attaining • FBC - Attaining • AGI - Attaining
AGL - Attaining • AWC - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	6/16/2015	4.49 mg/L	AWC is attaining. The exceedance is due to low flow conditions.
Biocriteria	IBI ≥ 50 attaining IBI 40 - 49 inconclusive IBI ≤ 39 violating	5/15/2012	IBI 25	AWC is inconclusive. Post fire exceedance.

Monitoring Summary

Sampling period: 11/9/2011 - 6/16/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE HERB MARTYR CAMPGROUND	UGCAV016.84	101108	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), lead (dissolved), selenium, mercury (dissolved)

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Priority	Monitoring Recommendations
High	Collect another macroinvertebrate sample to determine if the reach has recovered from the Horseshoe 2 Fire. Use lower reporting limits for selenium, dissolved cadmium and dissolved copper.

Impairment Discussion
Remains impaired for selenium (2004). No selenium exceedances in 8 samples in this assessment period. However, one sample had a detection limit issue.

ED_013248_00000487-00011

CLUFF RANCH POND #3

15040005-0370
15 Acres

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AGI - Inconclusive
AGL - Inconclusive • AWW - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 6/10/2013 - 6/10/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MID LAKE	UGCRC-B	102542	AGF	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, copper, lead, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, copper, lead, mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

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COLEMAN CREEK

Headwaters - Campbell Blue
15040004-040
7.257 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGL - Attaining
AWC - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 9/4/2014 - 6/3/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW TURKEY CREEK	UGCOL003.48	100523	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	AWC attainment could not be determined due to reporting limits for dissolved cadmium and dissolved copper being too high for all samples.

ED_013248_00000487-00013

DANKWORTH LAKE

15040006-0440
8 Acres

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 6/11/2013 - 6/11/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT NATURAL SPRING SOURCE	UGDAN-SPR	100326	AGF	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

EAGLE CREEK

Headwaters - Tributary at 33°22'31.98"/109°29'43.14"
15040005-028A
11.8 Miles

Category 2
Attaining some uses

DWS - Attaining • FC - Attaining • FBC - Inconclusive
AGI - Attaining • AGL - Attaining • AWC - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	7/7/2014	6.13 mg/L	AWC is attaining. The exceedance is due to low flow conditions
E. coli	235 cfu/100 mL	7/7/2014	461 cfu/100 mL	FBC is inconclusive with 1 exceedance in 4 samples.
Biocriteria	IBI ≥ 50 attaining IBI 40 - 49 inconclusive IBI ≤ 39 violating	7/7/2014	IBI 19	AWC is inconclusive with 1 violation.

Monitoring Summary

Sampling period: 9/18/2013 - 7/7/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE HONEYMOON CAMPGROUND	UGEAG056.85	100535	ADEQ	Ambient Monitoring
ABOVE MUD SPRINGS CANYON	UGEAG049.82	109682	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(6-7) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(7) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-7) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria, *E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	beryllium, cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect a verification sample for biocriteria. Collect more *E. coli* samples due to the exceedance. Use a lower reporting limit for dissolved cadmium.

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EAGLE CREEK

Sheep Wash - Gila River
15040005-025
41.826 Miles

Category 1
Attaining all uses

DWS - Attaining • FC - Attaining • FBC - Attaining
AGI - Attaining • AGL - Attaining • AWW - Attaining

Use Support

No Exceedances

Monitoring Summary

Sampling period: 10/30/2012 - 5/19/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
DOWN STREAM FROM MC MORAN PUMPING STATION	UGEAG011.09	106582	ADEQ	Ambient Monitoring
NEAR MORENCI, AZ, SITE 1	UGEAG013.81	100395	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(7-8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria, fish tissue mercury

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

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EAGLE CREEK

Willow Creek - Sheep Wash
15040005-027
5.81 Miles

Category 1
Attaining all uses

DWS - Attaining • FC - Attaining • FBC - Attaining
AGI - Attaining • AGL - Attaining • AWW - Attaining

No Exceedances

Monitoring Summary

Sampling period: 9/13/2011 - 5/16/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE SHEEPS WASH	UGEAG040.33	100536	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Copper (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

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EAST EAGLE CREEK

Headwaters - Eagle Creek
15040005-1367
14.15 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGL - Attaining
AWC - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 9/3/2014 - 5/19/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR HEADWATER & STRAYHORSE CAMP	UGEEG001.57	110242	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	AWC attainment could not be determined due to reporting limits for dissolved cadmium being too high for all samples.

ED_013248_00000487-00018

EAST TURKEY CREEK

Headwaters - Tributary at 31°58'22.21"/109°12'20.00"
15040006-837A
7.8 Miles

Category 2
Attaining some uses

Upper Gila

FC - Attaining • FBC - Inconclusive • AGL - Inconclusive
AWC - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 11/9/2011 - 5/15/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE FOREST ROAD #42	UGETK011.80	100545	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(3-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	pH
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period. Use lower reporting limits for dissolved cadmium and dissolved copper.

ED_013248_00000487-00019

FRYE CANYON CREEK

Headwaters - Frye Mesa Reser
15040005-988A
5 Miles

Category 2
Attaining some uses

DWS - Inconclusive • FC - Attaining • FBC - Attaining
AGL - Attaining • AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	9/24/2014	4.33 mg/L	AWC is inconclusive with 1 exceedance in 4 samples.

Monitoring Summary

Sampling period: 9/24/2014 - 5/12/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT FOREST ROAD #36 FIRST CROSSING	UGFRY009.52	100720	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Dissolved oxygen
Missing Core Parameters	None
Missing Seasonal Distribution	Fluoride
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), lead (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect more dissolved oxygen samples due to the exceedance. Use lower reporting limits for dissolved cadmium and dissolved copper - reporting limits were too high for all samples. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00020

GILA RIVER

Cottonwood Creek - San Francisco River
15040002-001
15.2 Miles

Category 4A
Not attaining

Upper Gila

IMPAIRMENT STATUS

E. coli (2010)

FC - Inconclusive • FBC - Not Attaining • AGI - Inconclusive
AGL - Inconclusive • AWW - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring.

Impairment Discussion
Remains not-attaining for *E. coli* (2010). This reach was re-classied from Category 5 to 4A as addressed by the Upper Gila TMDLs for E. coli (ADEQ OFR 11-08), approved by EPA in 2012. The reach was part of the study area of the TMDLs and is implicitly included in subwatershed allocations for the Gila River - Yuma Wash to Bitter Creek subwatershed. Single sample maximum 90th percentile targets may be found in Table 9 of the document. Geomean allocations and their associated arithmetic means are based upon areal prorations of targets established for the USGS gauge for the Gila River near Solomon, Arizona. They can be provided for the reaches identified where necessary.

ED_013248_00000487-00021

GILA RIVER

Apache Creek - Cottonwood Creek
15040002-002
6.4 Miles

Category 4A
Not attaining

IMPAIRMENT STATUS

E. coli (2010)

FC - Inconclusive • FBC - Not Attaining • AGI - Inconclusive
AGL - Inconclusive • AWW - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring.

Impairment Discussion
Remains not-attaining for *E. coli* (2010). This reach was re-classied from Category 5 to 4A as addressed by the Upper Gila TMDLs for E. coli (ADEQ OFR 11-08), approved by EPA in 2012. The reach was part of the study area of the TMDLs and is implicitly included in subwatershed allocations for the Gila River - Yuma Wash to Bitter Creek subwatershed. Single sample maximum 90th percentile targets may be found in Table 9 of the document. Geomean allocations and their associated arithmetic means are based upon areal prorations of targets established for the USGS gauge for the Gila River near Solomon, Arizona. They can be provided for the reaches identified where necessary.

GILA RIVER

New Mexico border - Bitter Creek
15040002-004
16.3 Miles

Category 4A
Not attaining

Upper Gila

IMPAIRMENT STATUS

E. coli and SSC (2006/8)

FC - Inconclusive • FBC - Not Attaining • AGI - Inconclusive
AGL - Inconclusive • AWW - Not Attaining

No Exceedances

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring.

Impairment Discussion
Remains not attaining for *E. coli* and SSC (2006/8). *E. coli* TMDL completed in 2012. SSC TMDL completed 2013.

ED_013248_00000487-00023

GILA RIVER

Bonita Creek - Yuma Wash
15040005-022
5.799 Miles

Category 4A/5
Not attaining/Impaired

Lead (2010), E. coli (2004) and SSC (EPA 2004)

IMPAIRMENT STATUS

FC - Attaining • FBC - Not Attaining/Impaired
AGI - Attaining • AGL - Attaining • AWW - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper	500 ug/L (AGL) 1300 ug/L (FBC)	8/13/2014	1370 ug/L	AGL and FBC are attaining with 1 exceedance in 17 samples (binomial).
Copper (dissolved)	14.2 ug/L @ 171 mg/L hardness	8/13/2014	14.8 ug/L	AWW is inconclusive with 1 exceedance.
E. coli	235 cfu/100 mL	8/22/2011	2800 cfu/100 mL	FBC remains not attaining with 5 exceedances in 17 samples.
		12/14/2011	770 cfu/100 mL	
		8/22/2012	5400 cfu/100 mL	
		8/14/2013	2600 cfu/100 mL	
		8/13/2014	3300 cfu/100 mL	
Lead	15 ug/L (FBC) 100 ug/L (AGL)	8/22/2011	71.9 ug/L	FBC remains impaired with 5 exceedances in 17 sample (binomial). AGL is attaining with 2 exceedances in 17 samples (binomial).
		12/14/2011	32.2 ug/L	
		8/22/2012	288 ug/L	
		8/14/2013	54.5 ug/L	
		8/13/2014	166 ug/L	
Manganese	10000 ug/L	8/22/2012	12600 ug/L	AGI is attaining with 1 exceedance in 17 samples (binomial).
SSC	80 mg/L	8/22/2011	3370 mg/L	AWW is attaining with no median exceedances.
		8/13/2014	2160 mg/L	

ED_013248_00000487-00024

Monitoring Summary

Sampling period: 9/29/2010 - 12/10/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT HEAD OF SAF-FORD VALLEY USGS 09448500	UGGLR448.61	100729	USGS	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(17) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(17) Nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(4-17) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper (dissolved)
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
High	Collect more samples in support of TMDL development. Continue effectiveness monitoring for *E. coli* and SSC. Collect additional dissolved copper samples due to the exceedance.

Impairment Discussion
Remains not attaining for *E. coli* (2004) and SSC (EPA 2004), and remains impaired for lead (2010). *E. coli* TMDL completed in 2012, and SSC TMDL completed in 2013. Although there were no SSC median exceedances in 8 samples collected over a two-year period, additional data over a full assessment period is recommended to confirm attainment.

ED_013248_00000487-00025

GILA RIVER

Underwood Wash - Bylas Salt
15040005-012
9.229 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGI - Inconclusive
AGL - Attaining • AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Boron	1000 ug/L	5/18/2015	1040 ug/L	AGI is inconclusive with 1 exceedance in 4 samples.
E. coli	235 cfu/100 mL	9/16/2014	290.9 cfu/100 mL	FBC is inconclusive with 1 exceedance in 4 samples.
SSC	80 mg/L	5/18/2015	85.3 mg/L	AWW is inconclusive. Two out of four samples collected during storm events - Insufficient number of samples left to calculate a median.

Monitoring Summary

Sampling period: 9/16/2014 - 5/18/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW CARLAND WASH	UGGLR401.85	103619	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Boron, SSC, *E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more *E. coli*, suspended sediment and boron samples due to exceedances.

ED_013248_00000487-00026

GILA RIVER

Yuma Wash - San Simon Creek
15040005-020
7.827 Miles

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AGL - Inconclusive
AGL - Inconclusive • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
SSC	80 mg/L	1/9/2013	92 mg/L	AWW is inconclusive. Insufficient number of samples to calculate a median.
		2/28/2013	120 mg/L	
Bottom deposits	< 50% fines	5/7/2013	73%	AWW is inconclusive.

Monitoring Summary

Sampling period: 1/9/2013 - 5/7/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR SOLOMON	UGGLR446.02	109384	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(3) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-3) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits, suspended sediment
Missing Core Parameters	None
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, copper, lead, mercury
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more suspended sediment and bottom deposit samples due to exceedances. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00027

KP CREEK

Headwaters - Blue River
15040004-029
12.105 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGL - Attaining
AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	6/19/2012	5.21 mg/L	AWC is inconclusive with 1 exceedance in 7 samples.
Biocriteria	IBI ≥ 52 attaining IBI 46 - 51 inconclusive IBI ≤ 45 violating	6/19/2012	IBI 42	AWC is inconclusive with 1 violation.

Monitoring Summary

Sampling period: 8/17/2011 - 5/20/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW KP CIENEGA	UGKPK011.18	100888	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(7) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(7) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-7) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria, dissolved oxygen
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), lead (dissolved), zinc (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more dissolved oxygen samples due to the exceedance. Collect a verification sample for biocriteria. Use lower reporting limits for dissolved copper and dissolved cadmium - all samples had reporting limits greater than chronic criteria.

ED_013248_00000487-00028

LENGTHY CANYON

Headwaters - Strayhorse Creek
15040004-104
2.928 Miles

Category 3
Inconclusive

Upper Gila

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	9/3/2014 1	5.34 mg/L	AWC is attaining. Low dissolved oxygen due to low flow conditions and influence of nearby spring.

Monitoring Summary

Sampling period: 9/3/2014 - 9/3/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
TRIB TO STRAYHORSE	UGLEC002.83	110262	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Dissolved oxygen
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, nitrogen, phosphorus, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, nitrogen, phosphorus, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period. Use a lower reporting limit for dissolved cadmium.

ED_013248_00000487-00029

LITTLE CREEK

Headwaters - San Francisco River
15040004-045
4.853 Miles

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 9/4/2014 - 9/4/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE FR275 CROSS-ING	UGLIT002.62	110243	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00030

LUNA LAKE

15040004-0840
120 Acres

Category 4A
Not attaining

pH, dissolved oxygen, nutrients and ammonia (1992)

FC - Attaining • FBC - Inconclusive • AGL - Inconclusive
AWC - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Ammonia	0.65 mg/L chronic @ pH 8.65 and Temp 19 C	8/9/2011	0.71 mg/L	AWC remains not attaining with 2 exceedances in 7 samples.
	0.17 mg/L chronic, 0.38 mg/L acute @ pH 9.77 and Temp 19 C	8/7/2012	0.73 mg/L	
Dissolved oxygen	7.0 mg/L	8/9/2011	5.46 mg/L	AWC remains not attaining with 2 exceedances in 4 samples.
		10/25/2011	6.69 mg/L	
Mercury (dissolved)	0.01 ug/L	5/10/2011	0.11 ug/L	AWC is inconclusive with 1 exceedance in 2 samples.
pH	9.0 SU	10/28/2010	9.4 SU	AGL, AWC and FBC remain not attaining with 5 exceedances in 12 samples (binomial).
		10/25/2011	9.3 SU	
		8/7/2012	10 SU	
		11/6/2012	10 SU	
		8/14/2013	9.7 SU	

Monitoring Summary

Sampling period: 10/7/2010 - 10/23/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MID LAKE	UGLUN-B	100979	ADEQ	Clean Lakes Program
AT DAM	UGLUN-A	100036	ADEQ	Clean Lakes Program

Metal Samples	Nutrients & Related Samples	Other Samples
(3-9) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(10-15) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(5-15) Dissolved oxygen, pH, total dissolved solids

ED_013248_00000487-00031

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Mercury (dissolved)
Missing Core Parameters	*E. coli*
Missing Seasonal Distribution	*E. coli*
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), lead (dissolved), mercury (dissolved), selenium

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring. Collect more dissolved mercury samples due to the exceedance.

Impairment Discussion
Remains not attaining for high pH, low dissolved oxygen, and ammonia. TMDL completed in 2000.

ED_013248_00000487-00032

NORTH FORK CAVE CREEK

Headwaters - Cave Creek
15040006-856
5.6 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AWC - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 9/10/2014 - 2/9/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT PORTAL-PARADISE RD	UGNCV000.16	110283	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(3) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-3) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), cadmium (dissolved), copper (dissolved), *E. coli*
Missing Seasonal Distribution	Zinc (dissolved), cadmium (dissolved), copper (dissolved), *E. coli*
Lab Detection Limits Not Low Enough	Cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00033

ROPER LAKE

15040006-1250
26 Acres

Category 3
Inconclusive

Use Support

FC - Inconclusive • FBC - Inconclusive • AWW - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 6/11/2013 - 6/11/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BOAT RAMP	UGROP-BR	102762	AGF	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00034

SAN FRANCISCO RIVER

Blue River - Limestone Gulch
15040004-003
18.678 Miles

Category 5
Impaired

IMPAIRMENT STATUS

E. coli (2006/8)

FC - Attaining • FBC - Impaired • AGI - Attaining
AGL - Attaining • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Ammonia	1.78 mg/L	7/5/2011	2.7 mg/L	AWW is inconclusive with 1 exceedance in 7 samples.
E. coli	235 cfu/100 ml	7/5/2011	3628.5 cfu/100 mL	FBC remains impaired. Not enough samples in the assessment window (7/1/12 - 6/30/15) to determine attainment.
		9/11/2011	686.7 cfu/100 mL	
		9/14/2011	308 cfu/100 mL	
Lead	15 ug/L	7/5/2011	44.3 ug/L	FBC is inconclusive with 1 exceedance in 6 samples.
SSC	80 mg/L	7/5/2011	14700 mg/L	AWW is attaining with no median exceedances. These exceedances occurred immediately after the Wallow Fire.
		9/11/2011	714 mg/L	
Bottom deposits	< 50% fines	5/15/2012	52%	AWW is inconclusive.

Monitoring Summary

Sampling period: 7/5/2011 - 5/20/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE CLIFTON, AZ	UGSFR019.04	100708	ADEQ	Ambient Monitoring
BELOW RECREATION ACCESS ROAD	UGSFR018.37	110549	ADEQ	TMDL Monitoring
NEXT TO RECREATIONAL AREA	UGSFR012.85	108882	ADEQ	Volunteer Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(2-6) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, zinc	(8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

ED_013248_00000487-00035

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits, ammonia, lead
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Mercury (dissolved)

Priority	Monitoring Recommendations
High	Collect more *E. coli* samples to support TMDL development/effectiveness monitoring. Collect more lead, ammonia and bottom deposit samples due to the exceedances.

Impairment Discussion
Remains impaired for *E. coli* (2006/8). The Watershed Implementation Plan was completed in 2012. ADEQ funded wells and drinkers in 2009 and 2010 and streambank erosion control projects in 2005 and 2006.

ED_013248_00000487-00036

SAN FRANCISCO RIVER

Headwaters - New Mexico border
15040004-023
13.056 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGI - Attaining
AGL - Attaining • AWC - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	7.0 mg/L	6/2/2015 7	6.51 mg/L	AWW is inconclusive. Low dissolved oxygen could be due to groundwater upwelling.
E. coli	235 cfu/100 mL	9/4/2014 8	325.5 cfu/100 mL	FBC is inconclusive with 1 exceedance in 4 samples.

Monitoring Summary

Sampling period: 9/4/2014 - 6/2/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE LUNA LAKE	UGSFR151.22	100381	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Dissolved oxygen, *E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect more dissolved oxygen and *E. coli* samples due to exceedances. Use a lower reporting limit for dissolved cadmium.

ED_013248_00000487-00037

SAN FRANCISCO RIVER

Limestone Gulch - Gila River
15040004-001
12.781 Miles

Category 5
Impaired

IMPAIRMENT STATUS

E. coli (2010)

FC - Attaining • FBC - Impaired • AGI - Attaining
AGL - Attaining • AWW - Attaining

No Exceedances

Monitoring Summary

Sampling period: 10/31/2012 - 5/20/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE FRISCO ROAD BRIDGE	UGSFR011.68	110548	ADEQ	TMDL Monitoring
AT LIMESTONE GULCH NEAR CLIFTON, AZ	UGSFR012.54	103604	ADEQ	TMDL Monitoring
BELOW CLIFTON, AZ	UGSFR006.42	100382	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(10) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-10) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits, fish tissue mercury

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
High	Collect more *E. coli* samples during critical conditions to support TMDL development/effectiveness monitoring.

Impairment Discussion
Remains impaired for *E. coli* (2010). The Watershed Implementation Plan was completed in 2012. Two restrooms installed along the road down to the river in 2013 and 2014. Although there were no exceedances in 8 aggregated samples, *E.coli* data during critical conditions (stormflow) is needed to determine attainment.

ED_013248_00000487-00038

SAN FRANCISCO RIVER

New Mexico border - Blue River
15040004-004
20.937 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGI - Attaining
AGL - Attaining • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Bottom deposits	< 50% fines	5/22/2013	54%	AWW is inconclusive.

Monitoring Summary

Sampling period: 10/31/2012 - 5/22/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR MARTINEZ RANCH	UGSFR034.57	100834	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, biocriteria, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect another bottom deposit sample to confirm violation.

ED_013248_00000487-00039

STONE CREEK

Headwaters - New Mexico border
15040004-057
5.824 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGI - Attaining
AGL - Attaining • AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
SSC	25 mg/L	2/17/2015	31.7 mg/L	AWC is attaining with no median exceedance.

Monitoring Summary

Sampling period: 9/22/2014 - 6/2/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
UPSTREAM OF BOB THOMAS CR CONFLUENCE AND FR275 CROSSING	UGST0003.44	110302	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(3-4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Arsenic, cadmium (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	AWC attainment could not be determined due to reporting limits for dissolved cadmium being too high for all samples. Use a lower reporting limit for dissolved cadmium.

ED_013248_00000487-00040

UNNAMED TRIB TO CAVE CREEK

Headwaters - Cave Creek
15040006-861
3.659 Miles

Category 3
Inconclusive

Upper Gila

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 9/10/2014 - 9/10/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT JOHN HANDS CAMP-GROUND	UGUCA000.02	110282	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved), copper (dissolved), lead (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000487-00041

Unnamed Trib to Little Strayhorse

Headwaters - Little Strayhorse Creek
15040004-617
1.777 Miles

Category 3
Inconclusive

Use Support

FC - Inconclusive • FBC - Inconclusive • AWC - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 9/3/2014 - 9/3/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NR HWY 191	UGULS000.53	110263	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved), mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.