

Colorado River Below E.V. Spence Reservoir: 2016 Status of Management Measures and Control Actions

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Causes/Sources of Impairment Targeted Critical Areas	Management Measures	Estimated Potential Load Reduction (lbs/Year)	Technical and Financial Assistance Needed for Each Measure	Education Component for Each Measure (and Other Education)	Implementation Schedule	Interim, Measurable Milestones for Each Measure	Indicators to Measure Progress	Monitoring Component	Responsible Entity
Salt Cedar Segment 1426 Watershed	Management Measure 1.0 Targeted Brush Control (Salt Cedar) in E.V. Spence Reservoir Watershed	Chloride: 4.29E+04 TDS: 1.20E+05	Section 319 Nonpoint Source Grant	TSSWCB webpage	Completed	Acres of land treated (11,3691 acres treated)	Reduction in chloride and TDS related concentration	Continuous monitoring and routine basin monitoring	TSSWCB responsible for implementation UCRA and TCEQ responsible for routine basin monitoring
	Monitoring continues, but no 2016 update was provided on brush control measures								
Mesquite and Juniper Segment 1426	Recommended Management Measure 2.0 Targeted Brush Control of Upland Mesquite and Juniper	Reduce concentrations of chlorides and TDS through introduction of higher flows	TSSWCB Water Supply Enhancement Program, NRCS programs, landowner participation	TSSWCB webpage	Contingent upon applications and TSSWCB ranking, priority, and approval	Acres of land treated	Increase in base flows and reduction in chloride and TDS related concentration	Continuous monitoring and routine basin monitoring	TSSWCB responsible for implementation UCRA and TCEQ responsible for routine basin monitoring
	Monitoring continues, but no 2016 update was provided on brush control measures								

Salt Cedar and Willow Baccharis Segments 1426 and 1433	Recommended Management Measure 3.0 Targeted Brush Control of Salt Cedar and Willow Baccharis in Segments 1426 and 1433	Not available, will be based on model results	TSSWCB Water Supply Enhancement Program Section 319 Nonpoint Source Grants, NRCS programs	TSSWCB webpage	Contingent upon applications and TSSWCB ranking, priority, and approval	Acres of land treated	Reduction in chloride and TDS related concentration and increase in base flow	Continuous monitoring and routine basin monitoring	TSSWCB and UCRA responsible for implementation UCRA and TCEQ responsible for routine basin monitoring
	Monitoring continues, but no 2016 update was provided on brush control measures								
Oil and gas operations in the Wendkirk Oil Field and the Ballinger seep and/or dissolution of gypsum from the San Angelo Formation Segment 1426 (Machae Creek Area (Wendkirk Field) and Ballinger Seep area)	Control Action 1.0 Investigations and Abatement of Loads from Produced Water and Seeps to Surface Groundwater investigations leading to selection and implementation of BMPs in the Wendkirk Oil Field and the Ballinger seep	Chloride: 9.53E+06 TDS: 5.86E+06	Section 319 Nonpoint Source Grants	Project status and results reports available electronically via the project webpage	2007 -2009 Work ongoing at Wendkirk Field and Ballinger Seep – Recovery trenches to be installed Currently writing QAPPS for additional GW investigations and BMP installs	Completion of GW investigation at Wendkirk Field Installation of recovery trenches at both sites	Installation and operation of recovery trenches Eventual reduction in TDS related concentrations from strategic deployment of BMPs	Routine basin monitoring	RRC responsible for GW investigations and implementation of BMPs UCRA and TCEQ responsible for routine basin monitoring
<p>2016 Update: The groundwater flow modeling, water quality testing and BMP evaluation were completed in 2015. The Ballinger BMP design was finalized in May 2016. Two recovery wells near the highest groundwater</p>									

<p>concentration will be installed by August 2016. Monitoring of effectiveness will take place</p>									
Produced water from leaking wells	<p>Control Action 2.0 Well Plugging</p> <p>Runnels County/Upper Colorado River Saltwater Discharge Minimization Project</p> <p>Two wells plugged as result of GW investigations conducted in Control Action 1.0</p>	Included in Control Action 1.0 numbers	Section 319 Nonpoint Source Grants	Project status and results reports available electronically via the project web-page	Completed	Numbers of wells plugged	...Saltwater Discharge Minimization Project has been completed. 183 out of 189 wells plugged	Routine basin monitoring	RRC responsible for GW investigations and implementation of BMPs
<p>No additional plugging has taken place.</p>									
Carbonate Dissolution	<p>Control Action 3.0 Reservoir Management and Continuous Water Quality Monitoring</p> <p>Maintain operation of CWQM sites</p>	<p>Chloride: 5.60E+05</p> <p>TDS: 1.57E+06</p>	Section 106 Water Pollution Control Program Grant	TCEQ web-page and LCRA basin highlights report	2007-ongoing	n/a	Reduction in TDS related concentrations	Continuous monitoring and routine basin monitoring	Monitoring performed by UCRA and TCEQ
Segment 1412 and 1411 WQ releases from E.V. Spence Reservoir					1 CWQM site still operational				Reservoir management by CRMWD
					No releases from Spence since early 2009				

in Upper Colorado River Watershed	Reservoir management				Management of WQ of releases will resume if lake elevation of 1843.5' is reached				
<p>2016 Update: Water quality management could resume if the lake elevation rises to the release gates. Currently the lake level is significantly lower than the bottom of the gates.</p>									
Source unknown at present	Recommended Control Action 4.0 Investigation to Discover Pollutant Source and Development of Abatement Plan for the Elevated Chlorides at Site 18338	Subject to findings	Section 319 Nonpoint Source Grant	Subject to findings and pollutant source	UCRA to seek funding for a source determination groundwater investigation	Completion of investigation	Receipt of funding Implementation of groundwater investigation	Routine basin monitoring and additional monitoring needs to be determined	UCRA
<p>2016 Update: UCRA received funds to conduct an investigation. Work will start in the fall of 2016.</p>									