

# **Conditional Assessment of Dissolved Oxygen for Texas Streams**

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# Applying Conditional Criteria for Dissolved Oxygen

Season



Flow



- Applied to classified and unclassified streams found in Appendix A and D of the Water Quality Standards
- Criteria shifts are generally applied in summer months during critical low flows

# Site-specific Uses and Criteria

- Existing DO criteria for 4 segments

Segment No.	Segment Name	DO Average	DO Min
0805	Upper Trinity River	5.0 3.5 when headwater flow at USGS Gaging Station 08048000 (located on the West Fork Trinity River in Fort Worth) is less than 80 ft.3/s.	3.0
0841	Lower West Fork Trinity River	5.0 2.5 when headwater flow at USGS Gaging Station 08048000 (located on the West Fork Trinity River in Fort Worth) is less than 80 ft.3/s.	3.0
1428	Colorado River Below Lady Bird Lake	6.0 5.0 when stream flows at USGS gage number 08158000 are less than 150 cfs and greater than or equal to the 7Q2 for the segment.	4.0
2307	Rio Grande Below Riverside Diversion Dam	5.0 3.0 when headwater flow over the Riverside Diversion Dam is less than 35 ft3/s.	3.0

# Site-specific Uses and Criteria

- Revised DO criteria for 4 segments

Segment No.	Segment Name	DO Average	DO Min
0831	Clear Fork Trinity River Below Lake Weatherford	5.0 3.0 from the confluence with an unnamed tributary approximately 1.0 mile downstream of Weatherford Dam upstream to Weatherford Dam.	3.0 2.0 from the confluence with an unnamed tributary approximately 1.0 mile downstream of Weatherford Dam upstream to Weatherford Dam.
0833	Clear Fork Trinity River Above Lake Weatherford	4.0 2.0 when less than 1 cfs	2.0 1.0 when less than 1 cfs
1245	Upper Oyster Creek	4.0	3.0 1.0 from the confluence with Steep Bank Creek/Brazos River upstream to Dam #3.
1305	Caney Creek Above Tidal	5.0 4.0 from the confluence with Hardeman Slough upstream to the confluence with Water Hole Creek. 2.5 from March 15-October when flows are less than 5.0 cfs.	3.0 2.0 from March 15-October when flows are less than 5.0 cfs.

# Site-specific Uses and Criteria

- Existing DO criteria for 4 Appendix D waterbodies

Segment No.	Segment Name	DO Average	DO Min
0505	Rabbit Creek	4.0 3.0 when flows are greater than or equal 1.2 cfs and less than 5.95 cfs and it is May - October.	3.0
0505	Eightmile Creek	4.0 3.0 for the months of June through October.	3.0
0606	Black Fork Creek	5.0 4.0 for the months of May through October.	4.0
0606	Prairie Creek	5.0 3.0 for the months of May through October.	3.0

# Site-specific Uses and Criteria

- Revised DO criteria for 4 appendix D waterbodies

Segment No.	Segment Name	DO Average	DO Min
1217	North Fork Rocky Creek	4.0 2.0 when stream flows are below 1.5 ft <sup>3</sup> /s.	3.0 1.0 when stream flows are below 1.5 ft <sup>3</sup> /s.
1602	Lavaca River	5.0 2.0 from March 15th through October 15th.	3.0 1.0 from March 15th through October 15th.
1806	Camp Meeting Creek - Guadalupe to unnamed impoundment	5.0 4.0 for the months of July through September.	3.0 2.0 for the months of July through September.
1806	Camp Meeting Creek - unnamed impoundment to Tree Lane in Kerrville	5.0 2.0 for the months of July through September.	3.0 1.0 for the months of July through September.

# Assessment Changes

- Criteria are automatically applied with the SAS assessment tool according to the conditions



# Flow Dependent Criteria for Dissolved Oxygen

If the criterion is flow-dependent and no flow data exists, no criterion will be determined



Example:

North Fork Rocky Creek DO criterion = 3.0 mg/L

but

DO criterion: **2.0 mg/L when flow is < 1.5 cfs**



# Rocky Creek D.O. Assessment

Segment	USE	Method	Criteria	Number of Samples	Samples Assessed	Number of Exceedances	Data Qualifier	Binomial Level of Support
1217D	Aquatic Life Use	Dissolved Oxygen 24hr average		5	5	-99	LD	ND
1217D	Aquatic Life Use	Dissolved Oxygen 24hr minimum		5	5	-99	LD	ND
1217D	Aquatic Life Use	Dissolved Oxygen grab minimum	1-2	5	5	0	LD	NC
1217D	Aquatic Life Use	Dissolved Oxygen grab screening level	2-3	5	5	0	LD	NC

# Multiple Conditions

Some streams have different DO criteria for a mix of conditions

Example:

Rabbit Creek DO criterion = 4.0 mg/L

but

DO criterion = 3.0 mg/L when flows are >1.2 cfs and < 5.95 cfs and it is May - October

