

Ecological Water Resources and Assessment Project

Assessment of Ecoregional Dissolved Oxygen Regimes

2007 Data Summary for Little Drywood Creek in SE Bushwacker Conservation Area (LDC-1)

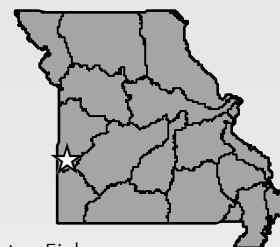
DATA OF INTEREST

Dissolved Oxygen (n= 47 days)	
Percent Time Below 5.0 mg/L	56 %
Percent Time Below 3.0 mg/L	2 %
Daily Mean	4.9 mg/L
Mean Daily Minimum	3.9 mg/L
Water Temperature (n= 47 days)	
Daily Mean	25.0 °C
Mean Daily Maximum	26.4 °C
Mean Daily Range	2.5 °C
Total Phosphorus	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Total Nitrogen	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Nitrate + Nitrite	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Sestonic Chlorophyll-a	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Periphyton Chlorophyll-a	
Median Areal Biomass	NA
EPA 25 th Aggregated Percentile	NA

SITE INFORMATION

Location

Vernon County, Missouri
 Northing 4168144 Easting 377693 NAD83



Classification → Class C, General Warm-Water Fishery
 Biocriteria Reference Stream
 Glide-Pool

Watershed → Hydrologic Unit Code 10290104
 Ecological Drainage Unit 15
Central Plains/Osage/South Grand
 EPA Aggregate Ecoregion IX
Southeastern Temperate Forested Plains and Hills
 EPA Level III Ecoregion 40 (*Central Irregular Plains*)
 Drainage Area 48.0 square miles

Landuse →

Urban	1.4 %
Row-Crop	26.5 %
Grassland	51.7 %
Forest & Woodland	12.5 %
Percent Refugia	2.4 %

Sampling Period → 18 July 2007 – 4 September 2007

Days with Flow < 0.1 ft³/sec → NA

Days Dominated by Runoff → NA

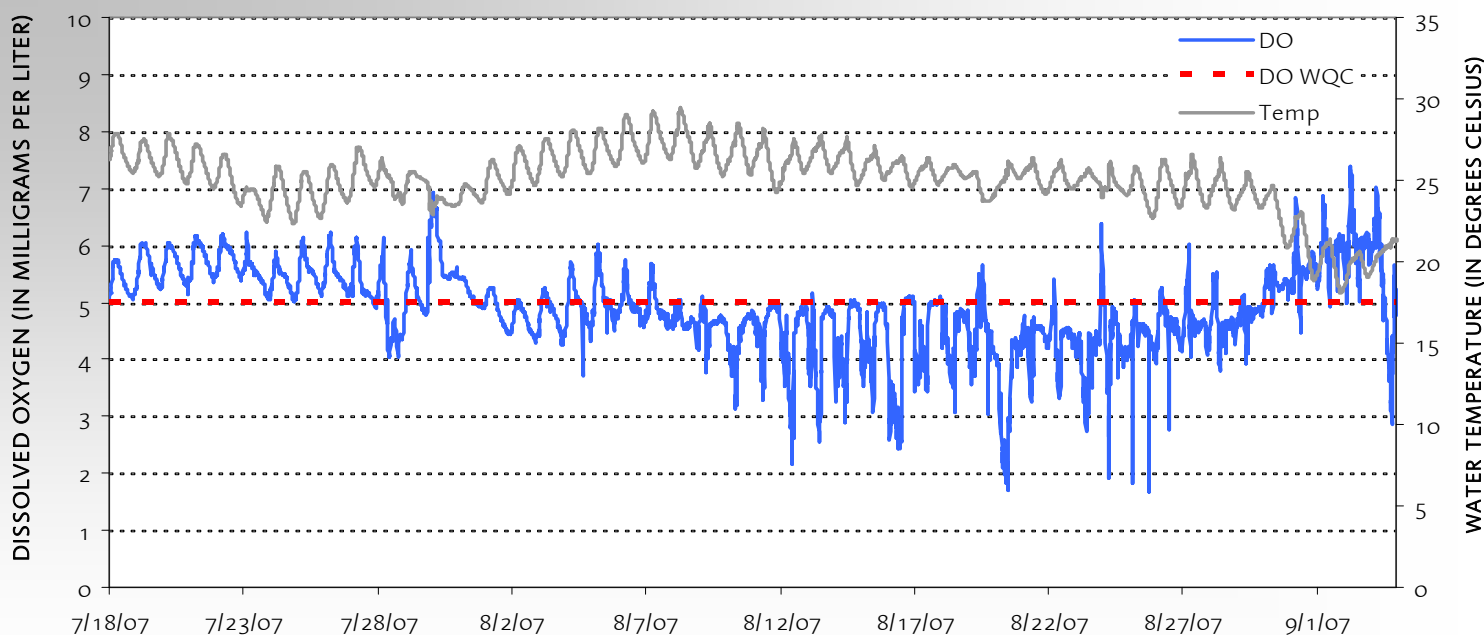


FIG 1. Continuous Dissolved Oxygen and Temperature Timeseries Collected at 15-minute intervals from 07/18/07 to 09/04/07. Little Drywood Creek in Bushwacker Conservation Area (LDC-1).

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Assessment of Ecoregional Dissolved Oxygen Regimes

2007 Data Summary for Little Drywood Creek in East Bushwacker Conservation Area (LDC-2)

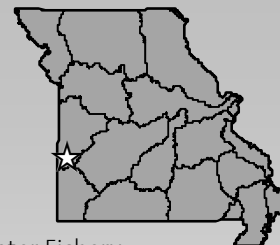
DATA OF INTEREST

Dissolved Oxygen (n= 47 days)	
Percent Time Below 5.0 mg/L	74 %
Percent Time Below 3.0 mg/L	24 %
Daily Mean	4.1 mg/L
Mean Daily Minimum	3.0 mg/L
Water Temperature (n= 47 days)	
Daily Mean	25.5 °C
Mean Daily Maximum	27.1 °C
Mean Daily Range	3.0 °C
Total Phosphorus (n= 7 samples)	
Median Concentration	60.0 ug/L
EPA 25 th Aggregated Percentile	92.5 ug/L
Total Nitrogen (n= 7 samples)	
Median Concentration	0.67 mg/L
EPA 25 th Aggregated Percentile	0.71 mg/L
Nitrate + Nitrite (n= 7 samples)	
*non-detect=MDL/2 *Median Concentration	0.06 mg/L
EPA 25 th Aggregated Percentile	0.23 mg/L
Sestonic Chlorophyll-a (n= 7 samples)	
Median Concentration	1.0 ug/L
EPA 25 th Aggregated Percentile	2.8 ug/L
Periphyton Chlorophyll-a	
(n= 7 samples based on 5 replicates per week)	
Median Areal Biomass	12.2 mg/m ²
EPA 25 th Aggregated Percentile	NA

SITE INFORMATION

Location

Vernon County, Missouri
 Northing 4169298 Easting 377004 NAD83



Classification → Class C, General Warm-Water Fishery
 Biocriteria Reference Stream
 Glide-Pool

Watershed → Hydrologic Unit Code 10290104
 Ecological Drainage Unit 15
 Central Plains/Osage/South Grand
 EPA Aggregate Ecoregion IX
 Southeastern Temperate Forested Plains and Hills
 EPA Level III Ecoregion 40 (Central Irregular Plains)
 Drainage Area 53.9 square miles

Landuse →

Urban	1.3 %
Row-Crop	25.9%
Grassland	51.4%
Forest & Woodland	13.3%
Percent Refugia	3.2%

Sampling Period → 18 July 2007 – 4 September 2007

Days with Flow < 0.1 ft³/sec → 0 (0%)

Days Dominated by Runoff → 7 (14.9%)

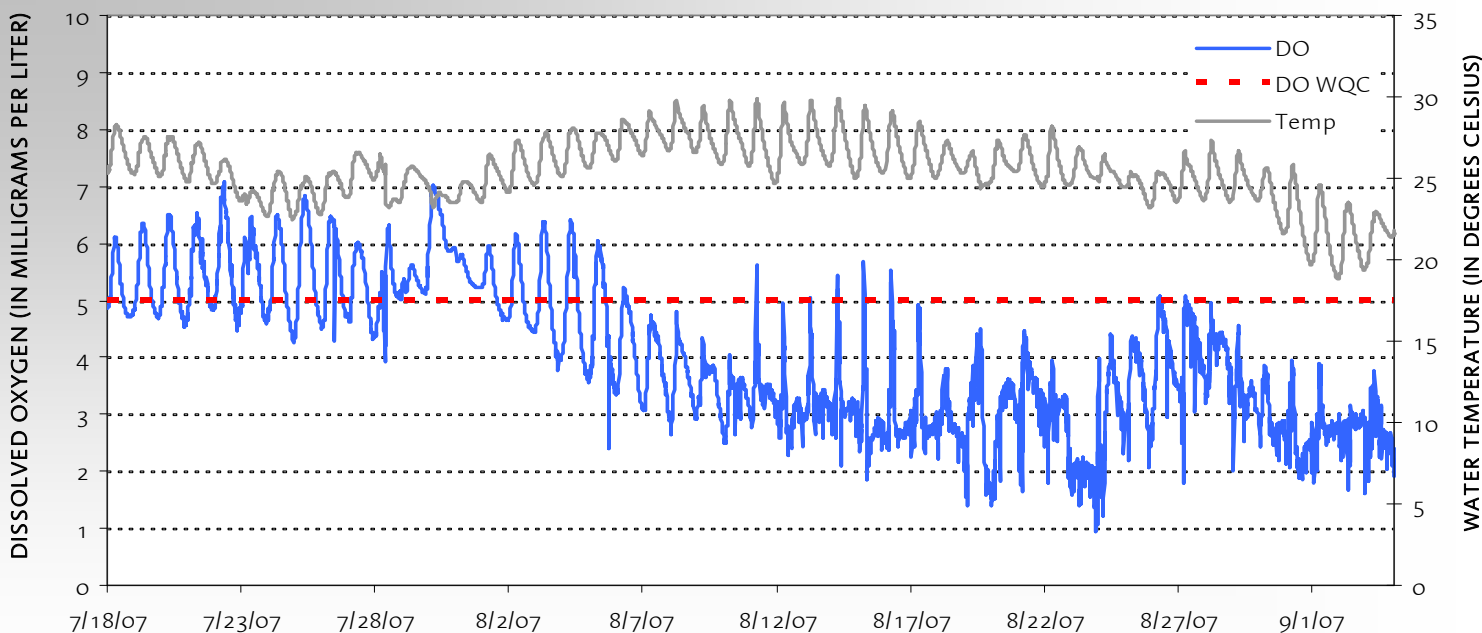


FIG 1. Continuous Dissolved Oxygen and Temperature Timeseries Collected at 15-minute intervals from 07/18/07 to 09/04/07. Little Drywood Creek in East Bushwacker Conservation Area (LDC-2).

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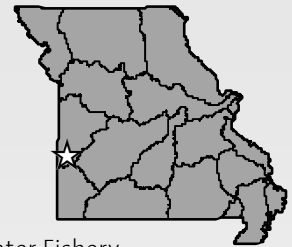
Assessment of Ecoregional Dissolved Oxygen Regimes 2007 Data Summary for Little Drywood Creek near Route N (LDC-3)

DATA OF INTEREST

Dissolved Oxygen (n= 20 days)	
Percent Time Below 5.0 mg/L	37 %
Percent Time Below 3.0 mg/L	0.1 %
Daily Mean	5.3 mg/L
Mean Daily Minimum	4.6 mg/L
Water Temperature (n= 20 days)	
Daily Mean	25.8 °C
Mean Daily Maximum	27.0 °C
Mean Daily Range	2.4 °C
Total Phosphorus	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Total Nitrogen	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Nitrate + Nitrite	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Sestonic Chlorophyll-a	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Periphyton Chlorophyll-a	
Median Areal Biomass	NA
EPA 25 th Aggregated Percentile	NA

SITE INFORMATION

Location
Vernon County, Missouri
Northing 4173201 Easting 377053 NAD83



Classification → Class C, General Warm-Water Fishery
Biocriteria Reference Stream
Glide-Pool

Watershed → Hydrologic Unit Code 10290104
Ecological Drainage Unit 15
Central Plains/Osage/South Grand
EPA Aggregate Ecoregion IX
Southeastern Temperate Forested Plains and Hills
EPA Level III Ecoregion 40 (*Central Irregular Plains*)
Drainage Area 68.7 square miles

Landuse →

Urban	1.1 %
Row-Crop	23.4%
Grassland	51.0%
Forest & Woodland	12.3%
Percent Refugia	11.6%

Sampling Period → 18 July 2007 – 8 August 2007

Days with Flow < 0.1 ft³/sec → NA

Days Dominated by Runoff → NA

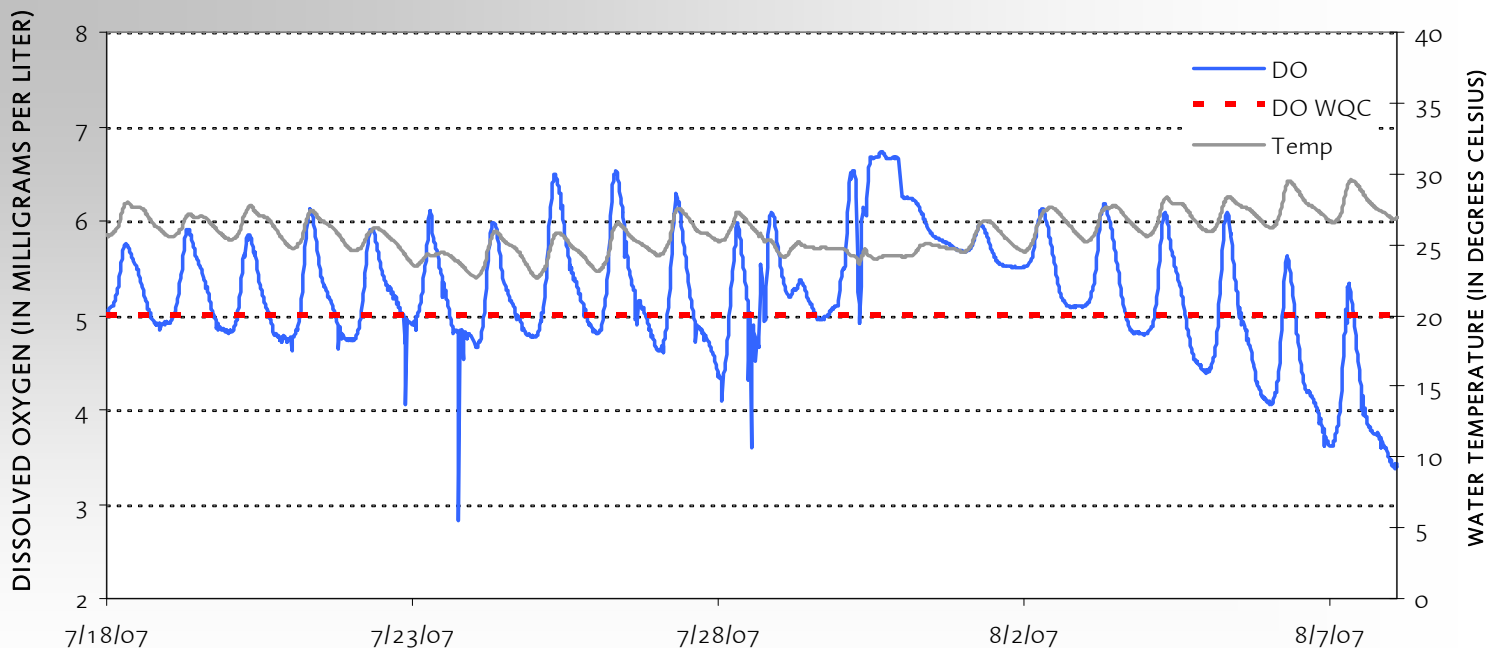


FIG 1. Continuous Dissolved Oxygen and Temperature Timeseries Collected at 15-minute intervals from 07/18/07 to 08/08/07. Little Drywood Creek Near Route N (LDC-3).

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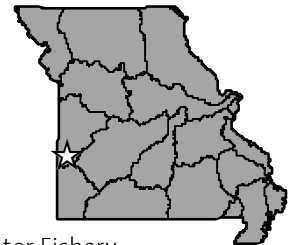
Assessment of Ecoregional Dissolved Oxygen Regimes 2007 Data Summary for Little Drywood Creek near Route F (LDC-4)

DATA OF INTEREST

Dissolved Oxygen (n= 14 days)	
Percent Time Below 5.0 mg/L	100 %
Percent Time Below 3.0 mg/L	93.5 %
Daily Mean	2.1 mg/L
Mean Daily Minimum	1.4 mg/L
Water Temperature (n= 14 days)	
Daily Mean	27.4 °C
Mean Daily Maximum	28.1 °C
Mean Daily Range	1.4 °C
Total Phosphorus	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Total Nitrogen	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Nitrate + Nitrite	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Sestonic Chlorophyll-a	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Periphyton Chlorophyll-a	
Median Areal Biomass	NA
EPA 25 th Aggregated Percentile	NA

SITE INFORMATION

Location
Vernon County, Missouri
Northing 4179792 Easting 376797 NAD83



Classification → Class P, General Warm-Water Fishery
Biocriteria Reference Stream
Glide-Pool

Watershed → Hydrologic Unit Code 10290104
Ecological Drainage Unit 15
Central Plains/Osage/South Grand
EPA Aggregate Ecoregion IX
Southeastern Temperate Forested Plains and Hills
EPA Level III Ecoregion 40 (*Central Irregular Plains*)
Drainage Area 118.8 square miles

Landuse →

Urban	1.9 %
Row-Crop	24.6%
Grassland	53.1%
Forest & Woodland	12.7%
Percent Refugia	6.7%

Sampling Period → 8 August 2007 – 23 August 2007

Days with Flow < 0.1 ft³/sec → NA

Days Dominated by Runoff → NA

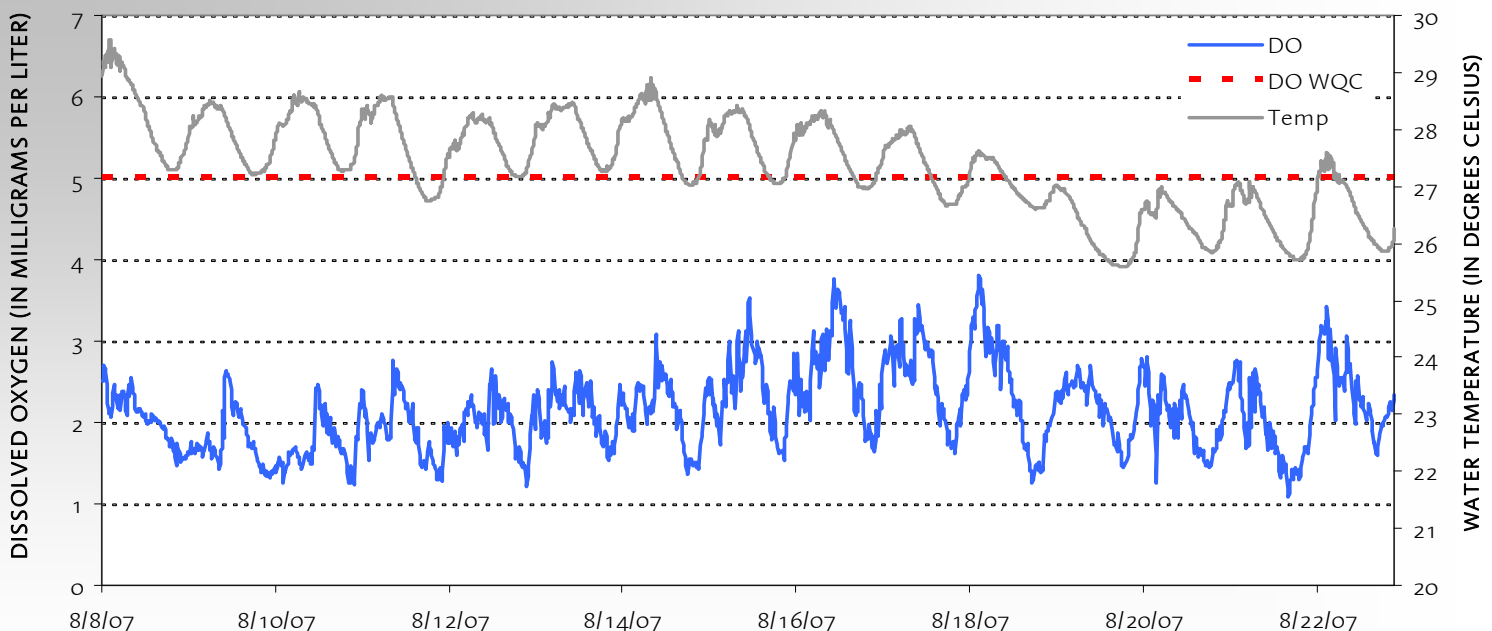


FIG 1. Continuous Dissolved Oxygen and Temperature Timeseries Collected at 15-minute intervals from 08/08/07 to 08/23/07. Little Drywood Creek Near Route F (LDC-4).

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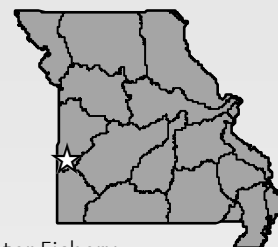
Assessment of Ecoregional Dissolved Oxygen Regimes 2007 Data Summary for Little Drywood Creek near County Road 530 (LDC-5)

DATA OF INTEREST

Dissolved Oxygen (n= 11 days)	
Percent Time Below 5.0 mg/L	100 %
Percent Time Below 3.0 mg/L	97 %
Daily Mean	1.5 mg/L
Mean Daily Minimum	0.7 mg/L
Water Temperature (n= 11 days)	
Daily Mean	24.0 °C
Mean Daily Maximum	24.6 °C
Mean Daily Range	1.1 °C
Total Phosphorus	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Total Nitrogen	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Nitrate + Nitrite	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Sestonic Chlorophyll-a	
Median Concentration	NA
EPA 25 th Aggregated Percentile	NA
Periphyton Chlorophyll-a	
Median Areal Biomass	NA
EPA 25 th Aggregated Percentile	NA

SITE INFORMATION

Location
Vernon County, Missouri
Northing 4181802 Easting 377040 NAD83



Classification → Class P, General Warm-Water Fishery
Biocriteria Reference Stream
Glide-Pool

Watershed → Hydrologic Unit Code 10290104
Ecological Drainage Unit 15
Central Plains/Osage/South Grand
EPA Aggregate Ecoregion IX
Southeastern Temperate Forested Plains and Hills
EPA Level III Ecoregion 40 (Central Irregular Plains)
Drainage Area 122.9 square miles

Landuse →

Urban	1.84 %
Row-Crop	24.1%
Grassland	53.4%
Forest & Woodland	12.8%
Percent Refugia	6.5%

Sampling Period → 23 August 2007 – 4 September 2007

Days with Flow < 0.1 ft³/sec → NA

Days Dominated by Runoff → NA

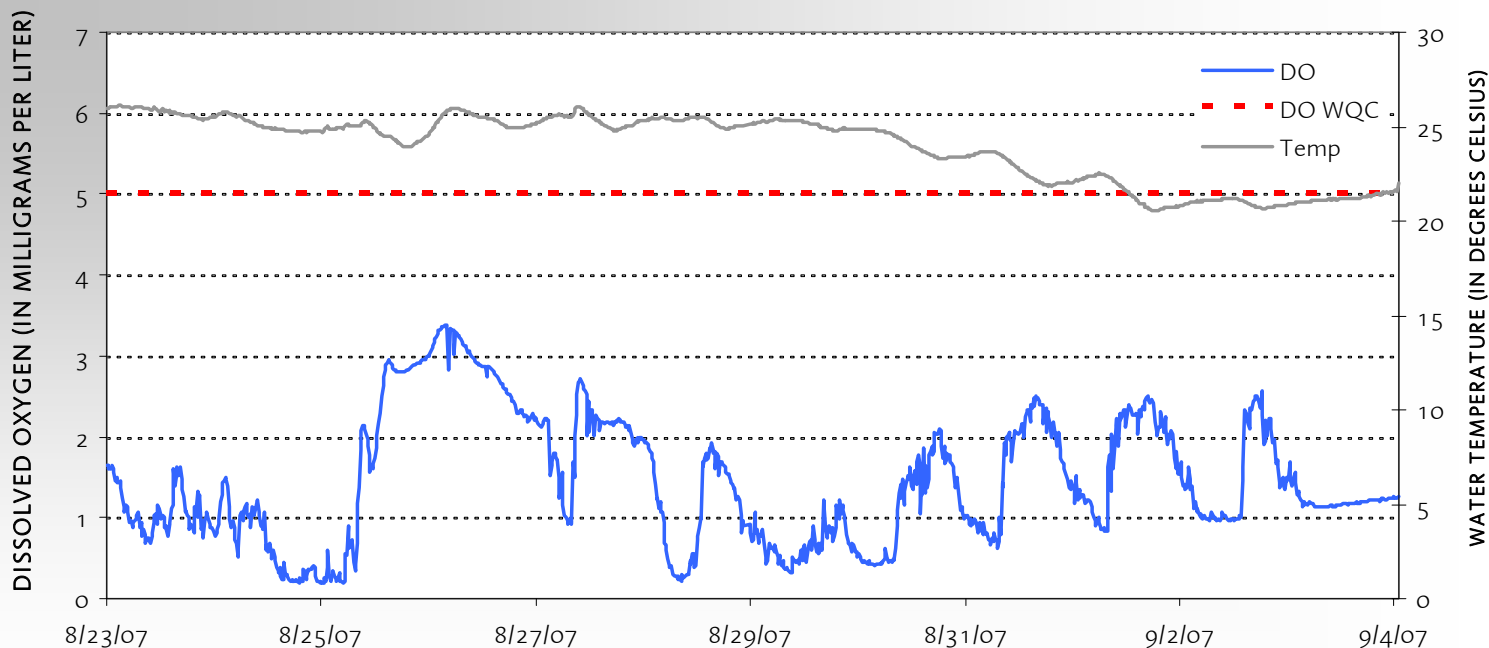


FIG 1. Continuous Dissolved Oxygen and Temperature Timeseries Collected at 15-minute intervals from 08/23/07 to 09/04/07. Little Drywood Creek Near County Road 530 (LDC-5).