Documentation of Request to Change Dissolved Oxygen Assessment
For Calcasieu River and Ship Channel, LA030301_00

During development of the 2016 Integrated Report (IR) the subsegment Calcasieu River and Ship Channel (LA030301_00) was incorrectly assessed as impaired with the suspected cause of "Oxygen, Dissolved" using data from ambient water quality network (WQN) site 0823 (Figure 1). Site 0823 is located in Prien Lake (LA030303_00). It is adjacent to and interconnected with the Calcasieu River and Ship Channel. However, historically WQN site 0026, located in Moss Lake (LA030304_00), was used to assess LA030301_00. Shared use of this site between LA030304_00 and LA030301_00 extends back to the 2012 IR.

After the WQN site error was identified, data and assessments used for site 0026 for the 2016 IR were reviewed and found to be fully supporting all applicable criteria and designated uses related to those criteria (Table 1). Table 2 contains all WQN data from site 0026 used for the 2016 IR. Because site 0026/subsegment LA030304_00 is immediately downstream from subsegment LA030301_00, has the same criteria as LA030301_00, and was used to assess LA030301_00 beginning with the 2012 IR, it was determined that LA030301_00 should have a DO assessment of fully supported.

Prior to the 2012 IR, data from WQN site 0027 was used to assess Calcasieu River and Ship Channel (LA030301_00). Site 0027 was inactivated in June 1998 because it is near the upper reaches of the subsegment rather than the preferred downstream end of the reach. Site 0026 was chosen to assess Calcasieu River and Ship Channel (LA030301_00) due to its close downstream proximity to the boundary between LA030301_00 and Moss Lake (LA030304_00), along with the contiguous nature of the water bodies.

This correction removes the suspected impairment of "Oxygen, Dissolved" from Louisiana's §303(d) List for subsegment LA030301_00. All other numerical criteria assessments remain the same. The LA030301_00 suspected impairments for polychlorinated biphenyls and polycyclic aromatic hydrocarbons also remain in place as these are unrelated to the WQN site data.

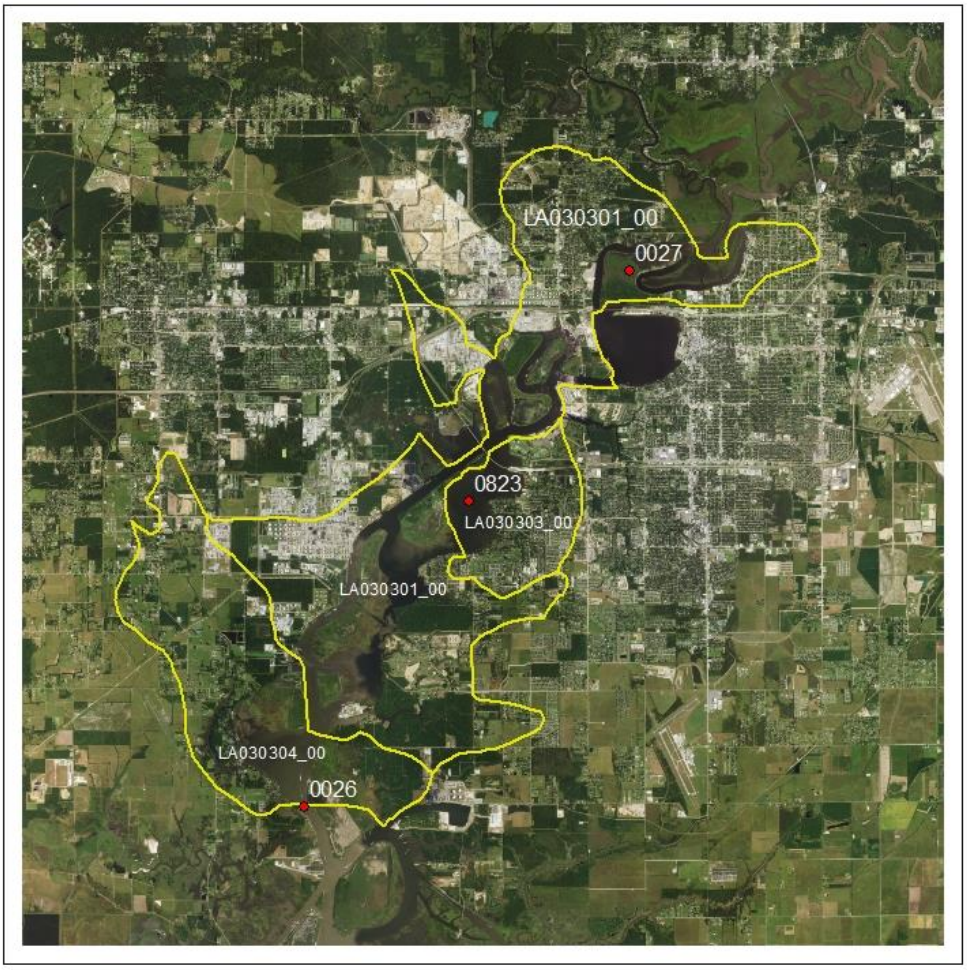

Figure 1: Louisiana subsegments Calcasieu River and Ship Channel (LA030301_00), Prien Lake (LA030303_00), Moss Lake (LA030304_00) and associated ambient water quality network sites.

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Louisiana Department of Environmental Quality
Water Planning and Assessment Division
Map No. 201705001, May 12, 2017
Base Map: 1:100 k DLG
Projection: UTM Zone 15N, NAD 83

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Table 1. 2016 Louisiana Water Quality Integrated Report assessment summary for site 0026, Moss Lake (LA030304_00) and Calcasieu River and Ship Channel (LA030301_00).

Parameter	N	Minimum	Maximum	Median	Criterion	Percent Exceedance	Parameter Support
Primary Contact Recreation							
Fecal Coliform (MPN/100 mL)	17	0	4,500	100	400	17.6	Full
Temperature (^{o}C)	24	21.6	32.1	29.4	35	0	Full
Secondary Contact Recreation							
Fecal Coliform (MPN/100 mL)	36	0	4,500	120	2,000	5.6	Full
Fish and Wildlife Propagation							
Dissolved Oxygen (mg/L)	48	4.2	9.6	6.4	4.0	0.0	Full
Turbidity (NTU)	48	2.0	78.2	10.6	50	2.1	Full
Temperature (^{o}C)	48	8.4	32.1	22.9	35	0.0	Full
pH_High (Standard Units)	48	6.8	8.0	7.5	8.5	0.0	Full
pH_Low (Standard Units)	48	6.8	8.0	7.5	6.0	0.0	Full

Table 2. Ambient water quality network data for Louisiana water quality site 0026, Moss Lake (LA030304_00) and Calcasieu River and Ship Channel (LA030301_00). Data used for the 2016 Water Quality Integrated Report.

Sample Date	Chlorides (mg/L)	Dissolved Oxygen (mg/L)	Fecal Coliform (MPN/100 mL)	pH (SU)	Sulfates (mg/L)	Total Dissolved Solids (mg/L)	Temperature (^{o}C)	Turbidity (NTU)
10/12/2011	15100	7.1	310	8	1930	34900	25.78	4.27
11/22/2011	15100	7.4		8	1860	40200	20.63	4.46
12/8/2011	12900	8.0	80	7.9	1600	27100	13.77	2.85
1/11/2012	3790	6.4		7.3	489	7410	15.17	12
2/14/2012	960	7.7	720	6.8	133	1930	12.32	18.1
3/13/2012	1640	6.4		7.1	212	5770	19.58	32.4
4/10/2012	1550	4.9	120	6.9	197	3580	24.99	31.7
5/8/2012	4070	6.6	220	7.6	1680	7450	28.28	5.85
6/13/2012	9820	6.4		7.8	1030	18000	29.31	3.87
7/18/2012	6180	6.3		7.4	789	5440	29.98	6.72
8/7/2012	7330	5.6		7.8	864	13300	31.1	3.28
9/6/2012	11600	5.5	40	7.8	1350		30.33	20.1
10/16/2012	10700	5.7		7.5	1330	20100	24.86	1.98
11/7/2012	13800	6.0	200	7.9	1840	23600	21.14	3.73
12/5/2012	15900	7.4		7.7	1970	26100	18.85	8.9
1/8/2013	3380	8.5		7.1	369	5850	11.12	17.9
2/5/2013	3230	7.6	1900	7.3	341	6720	16.31	8.06
3/5/2013	3970	7.9	140	7.2	501	7770	15.44	9.85
4/2/2013	2510	8.3	310	7.8	283	17300	19.77	5.2
5/7/2013		7.6		7.5		11700	21.57	6.49
6/4/2013	2520	6.2		7.2	356	4430	28.62	7.91
7/2/2013	7050	4.2		7.5	1010	12600	30.41	6.85
8/7/2013	9140	6.2		7.6	1260	18300	32.11	9.36

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9/10/2013	11700	5.3		7.4	1760	22600	30.27	6.73
10/16/2013	8720	6.4		7.6	1320	16300	27.45	6.19
11/6/2013	7170	6.4		7.2	998	12500	21.39	3.76
12/10/2013	5440	9.0	270	7.8	798	11700	10.33	8.47
1/7/2014	11200	9.6		7.6	1930	19000	8.35	34.9
2/6/2014	9470	9.4	720	7.2	1240	19100	8.42	21.7
3/5/2014	3560	7.9	220	7.2	484	6680	12.24	23.1
4/1/2014	8220	7.3	110	7.5	1080	15300	19.03	11.8
5/21/2014	8470	6.6		7.6	1100	17100	25.25	5.02
6/24/2014	2780	5.1	2250	7.4	507	7740	29.73	12.8
7/2/2014	1640	5.4	150	7	244	3420	29.41	32.7
8/6/2014	6760	5.1	50	7.6	1290	12900	30.65	10.2
9/4/2014	3380	5.6	100	7.3	545	7340	29.21	11
10/14/2014	6790	5.2	250	7.8	1250	15000	25.55	13.9
11/5/2014	10300	7.2		7.6	1990	21500	20.38	6.35
12/9/2014	8400	7.4		7.6	1380	18300	16.34	22.4
1/14/2015	1060	7.8	1400	8	149	1960	15.88	44.2
2/4/2015	6840	8.6	50	7	781	12700	11.27	11.8
3/11/2015	2190	7.4	150	7.2	452	4140	13.36	32.2
4/14/2015	1120	5.2	120	7.2	352	2110	22.01	78.2
5/5/2015	1740	6.0		7.5	290	3350	23.79	36.2
6/10/2015	2040	5.2	110	7.1	292	3950	29.16	15.1
7/15/2015	3520	5.3	4500	7.4	566	7260	31.44	13.4

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8/11/2015	9500	5.1	10	7.7	925	17500	31.81	12.6
9/8/2015	9230	6.2	2000	7.7	1170	16900	30.21	12.3