

Appendix 3A-3: Water Year 2012 Attainment of the Everglades Dissolved Oxygen Site-Specific Alternative Criteria at Individual Stations

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Table 1 within this appendix provides statistical summaries of annual dissolved oxygen (DO) concentrations, annual DO Site-Specific Alternative Criteria (SSAC) limits, and pass/fail status of sampling locations within the Everglades Protection Area (EPA) and Everglades National Park (ENP) for Water Year 2012 (WY2012) (May 1, 2011–April 30, 2012). The EPA includes Arthur R. Marshall Loxahatchee National Wildlife Refuge [Refuge, also known as Water Conservation Area 1 (WCA-1)], and Water Conservation Areas 2 and 3 (WCA-2 and WCA-3, respectively).

During WY2012:

- Twelve sampling locations failed the DO SSAC, which account for 10.3 percent of the total sampling locations. The sampling locations that failed are LOX16, LOXA105, LOXA124, LOXA136, X1, Z1, F1, F2, CA318, CA36, G123, and US41-25.
- Five of the stations that failed to achieve DO concentrations above the SSAC were located within impacted areas of the marsh. These stations are LOXA105, LOXA124, X1, Z1, and F1.
- Three of the sampling locations that did not attain DO concentrations above the SSAC only had one sampling point throughout the entire water year. These locations are LOXA105, X1, and Z1.

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Table 1. Summary of the attainment of the Everglades dissolved oxygen (DO) site-specific alternative criterion (SSAC) at individual monitoring stations in the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Refuge), Water Conservation Areas 2 and 3 (WCA-2 and WCA-3), and Everglades National Park (ENP) during Water Year 2012 (WY2012) (May 1, 2011–April 30, 2012). The SSAC assessment is based on a comparison between the mean annual measured DO [in milligrams per liter (mg/L)] and the annual calculated SSAC limit. Excursion categories are expressed in terms of “Pass” or “Fail.”

Area	Class	Station	Mean Annual DO	Sample Size (n)	Standard Deviation	Minimum DO	Maximum DO	Annual SSAC Limit	SSAC Pass/Fail
ENP	Inflow	S12A	3.68	52	1.43	1.28	7.33	2.03	Pass
ENP	Inflow	S12B	5.04	8	1.45	3.37	7.46	2.63	Pass
ENP	Inflow	S12C	4.02	12	1.26	2.02	6.31	2.83	Pass
ENP	Inflow	S12D	3.9	32	1.38	1.39	6.64	2.67	Pass
ENP	Inflow	S18C	5.96	52	2.31	1.51	9.81	2.95	Pass
ENP	Inflow	S333	3.58	52	1.16	1.06	6.1	2.36	Pass
ENP	Inflow	S355A	7.04	12	1.03	5.32	8.65	2.51	Pass
ENP	Inflow	S355B	6.06	12	1.13	4.2	7.62	2.69	Pass
ENP	Inflow	US41-25	2.43	18	1.53	0.77	6.24	2.55	Fail
ENP	Interior	EP	8.2	8	1.11	6.86	9.87	3.11	Pass
ENP	Interior	NE1	4.03	9	0.99	2.02	5.22	2.8	Pass
ENP	Interior	NP201	5.63	8	0.78	4.47	6.49	2.46	Pass
ENP	Interior	P33	4.62	9	1.02	3.19	5.86	2.47	Pass
ENP	Interior	P34	5.81	8	1.12	3.61	6.97	2.43	Pass
ENP	Interior	P35	4.79	8	1.44	3.06	6.8	3.1	Pass
ENP	Interior	P36	3.83	9	1.17	2.44	5.87	2.74	Pass
ENP	Interior	P37	7.53	6	0.42	7.01	8.03	2.75	Pass
ENP	Interior	TSB	8.31	5	0.78	7.2	9.01	3.43	Pass
Refuge	Inflow	ENR012	2.27	52	1.5	0.33	6.48	2.25	Pass
Refuge	Inflow	G300	6.21	52	2.09	3.08	12	3.07	Pass
Refuge	Inflow	G301	6.05	52	1.84	2.64	10.5	2.86	Pass
Refuge	Inflow	G310	5.31	52	1.41	2.42	8.43	2.06	Pass
Refuge	Inflow	G94D	5.54	1		5.54	5.54	4.45	Pass
Refuge	Inflow	S362	6.26	52	1.26	3.41	10.2	2.85	Pass
Refuge	Interior	LOX10	3.41	6	1.61	1.97	6.47	2.86	Pass
Refuge	Interior	LOX11	3.55	9	1.98	0.43	6.15	2.47	Pass
Refuge	Interior	LOX12	3.89	10	2.1	1.29	6.31	2.62	Pass
Refuge	Interior	LOX13	5.52	6	1.69	3.34	7.43	2.98	Pass

Area	Class	Station	Mean Annual DO	Sample Size (n)	Standard Deviation	Minimum DO	Maximum DO	Annual SSAC Limit	SSAC Pass/Fail
Refuge	Interior	LOX14	4.48	9	1.58	1.86	6.53	2.58	Pass
Refuge	Interior	LOX15	3.96	10	1.97	0.62	5.96	2.55	Pass
Refuge	Interior	LOX16	2.14	9	1.73	0.33	4.91	2.67	Fail
Refuge	Interior	LOX3	4.62	3	2.73	2.38	7.67	3.66	Pass
Refuge	Interior	LOX4	3.53	9	1.9	1.55	7	2.87	Pass
Refuge	Interior	LOX5	3.91	4	1.54	2.48	5.55	3.36	Pass
Refuge	Interior	LOX6	3.38	9	1.86	1.07	5.94	2.59	Pass
Refuge	Interior	LOX7	4.72	10	1.64	1.47	6.58	2.52	Pass
Refuge	Interior	LOX8	4.17	9	1.59	2.45	7.58	2.63	Pass
Refuge	Interior	LOX9	3.41	6	1.09	2.14	4.64	2.84	Pass
Refuge	Interior	LOXA105	2.92	8	0.88	1.47	3.83	3.06	Fail
Refuge	Interior	LOXA106	4.33	4	1.7	3.01	6.6	2.91	Pass
Refuge	Interior	LOXA107	6.13	3	3.52	4.07	10.2	3.79	Pass
Refuge	Interior	LOXA108	6.74	4	1.93	5.06	9.32	3.4	Pass
Refuge	Interior	LOXA124	2.26	1		2.26	2.26	4.74	Fail
Refuge	Interior	LOXA136	2.68	8	1.26	1.23	4.83	3.31	Fail
Refuge	Interior	LOXA137	3.82	7	2.18	1.38	6.91	3.35	Pass
Refuge	Interior	LOXA138	5.69	6	2.03	3.29	9.32	3.13	Pass
Refuge	Interior	LOXA139	6.42	5	1.31	4.88	8.05	2.92	Pass
Refuge	Interior	X1	2.14	1		2.14	2.14	5.14	Fail
Refuge	Interior	X4	7.82	1		7.82	7.82	5.38	Pass
Refuge	Interior	Z1	2.55	1		2.55	2.55	4.53	Fail
Refuge	Outflow	G94B	5.57	14	2.08	2.84	9.83	2.6	Pass
Refuge	Outflow	S10A	7.08	13	1.87	4.01	10.9	2.33	Pass
Refuge	Outflow	S10C	6.98	13	1.67	4.67	10.6	2.32	Pass
Refuge	Outflow	S10D	5.86	13	1.56	3.61	9.01	2.33	Pass
Refuge	Outflow	S39	7.03	21	1.86	4.54	11.9	2.29	Pass
Refuge	Rim	LOXA104	5.81	12	1.25	3.64	8.06	2.1	Pass
Refuge	Rim	LOXA135	5.42	12	0.88	3.72	7.02	2.42	Pass
WCA2	Inflow	G335	4.76	52	1.32	2.39	8.54	2.25	Pass
WCA2	Inflow	S10A	7.08	13	1.87	4.01	10.9	2.33	Pass
WCA2	Inflow	S10C	6.98	13	1.67	4.67	10.6	2.32	Pass
WCA2	Inflow	S10D	5.86	13	1.56	3.61	9.01	2.33	Pass
WCA2	Inflow	S7	5.21	47	1.8	1.72	8.4	2.3	Pass

Area	Class	Station	Mean Annual DO	Sample Size (n)	Standard Deviation	Minimum DO	Maximum DO	Annual SSAC Limit	SSAC Pass/Fail
WCA2	Interior	404C2	4.42	8	1.75	1.96	6.72	2.75	Pass
WCA2	Interior	404Z1	2.9	5	1.57	1.27	5.35	2.89	Pass
WCA2	Interior	CA27	4.24	9	1.88	1.84	7.73	2.7	Pass
WCA2	Interior	CA28	2.7	8	0.96	1.15	4.39	2.63	Pass
WCA2	Interior	CA29	5.95	10	1.97	3.38	9.33	2.81	Pass
WCA2	Interior	F1	2.99	8	2.15	1.24	7.94	3.41	Fail
WCA2	Interior	F2	2.34	8	1.92	0.39	5.63	3.24	Fail
WCA2	Interior	F4	3.47	10	1.53	1.14	5.98	3.14	Pass
WCA2	Interior	N1	3.03	10	1.35	1.15	4.84	2.71	Pass
WCA2	Interior	S145	4.19	19	1.27	1.83	5.98	2.61	Pass
WCA2	Interior	U3	5.98	9	1.54	3.35	7.98	2.78	Pass
WCA2	Outflow	S11A	6.09	13	2.39	1.14	8.77	2.27	Pass
WCA2	Outflow	S11B	4.76	7	2.12	1.95	7.59	2.25	Pass
WCA2	Outflow	S11C	3.85	20	1.97	0.48	6.68	2.37	Pass
WCA2	Outflow	S34	4.59	19	2.28	1.5	8.78	2.27	Pass
WCA2	Outflow	S38	3.12	27	1.33	0.77	5.61	2.77	Pass
WCA3	Inflow	C123SR84	4.34	12	2.75	0.81	10.1	2.79	Pass
WCA3	Inflow	G123	2.04	12	1.41	0.46	4.65	2.13	Fail
WCA3	Inflow	G204	3.32	4	1.91	0.96	5.62	3.04	Pass
WCA3	Inflow	G205	4.07	4	1.81	2.14	6.21	2.69	Pass
WCA3	Inflow	G206	4.41	4	1.17	3.38	5.43	2.54	Pass
WCA3	Inflow	L3BRS	5.33	52	2.44	0.33	9.6	2.27	Pass
WCA3	Inflow	S11A	6.09	13	2.39	1.14	8.77	2.27	Pass
WCA3	Inflow	S11B	4.76	7	2.12	1.95	7.59	2.25	Pass
WCA3	Inflow	S11C	3.85	20	1.97	0.48	6.68	2.37	Pass
WCA3	Inflow	S140	5.11	53	2.25	1.75	9.21	2.73	Pass
WCA3	Inflow	S142	4.44	13	1.35	1.76	6.01	2.4	Pass
WCA3	Inflow	S150	5.38	35	1.7	1.84	8.05	2.41	Pass
WCA3	Inflow	S151	3.69	15	1.2	1.62	6.98	2.79	Pass
WCA3	Inflow	S190	5.48	52	1.86	1.54	8.63	2.97	Pass
WCA3	Inflow	S8	5.07	52	1.63	1.7	7.27	2.08	Pass
WCA3	Inflow	S9	2.52	52	1.65	0.1	7.61	2.27	Pass
WCA3	Interior	CA311	5.62	9	1.99	2.69	9.3	2.62	Pass
WCA3	Interior	CA315	5.06	10	1.77	1.6	8.16	2.59	Pass

Area	Class	Station	Mean Annual DO	Sample Size (n)	Standard Deviation	Minimum DO	Maximum DO	Annual SSAC Limit	SSAC Pass/Fail
WCA3	Interior	CA316	3.01	9	1.12	1.79	4.71	2.55	Pass
WCA3	Interior	CA317	6.18	10	2.72	3	10.1	2.44	Pass
WCA3	Interior	CA318	2.7	9	1.63	0.66	4.57	2.72	Fail
WCA3	Interior	CA32	4.55	8	1.53	2.47	6.81	2.79	Pass
WCA3	Interior	CA33	2.83	5	1.34	1.38	4.13	2.59	Pass
WCA3	Interior	CA34	4.77	8	1.66	2.67	7.36	3.11	Pass
WCA3	Interior	CA35	3.38	3	0.93	2.37	4.2	2.22	Pass
WCA3	Interior	CA36	2.22	7	1.46	1.12	4.4	2.94	Fail
WCA3	Interior	CA38	4.36	7	0.96	3.23	5.42	2.84	Pass
WCA3	Outflow	S12A	3.68	52	1.43	1.28	7.33	2.03	Pass
WCA3	Outflow	S12B	5.04	8	1.45	3.37	7.46	2.63	Pass
WCA3	Outflow	S12C	4.02	12	1.26	2.02	6.31	2.83	Pass
WCA3	Outflow	S12D	3.9	32	1.38	1.39	6.64	2.67	Pass
WCA3	Outflow	S197	5.41	5	2.43	2.74	9.12	2.58	Pass
WCA3	Outflow	S31	3.72	13	1.91	1.61	8.24	2.8	Pass
WCA3	Outflow	S333	3.58	52	1.16	1.06	6.1	2.36	Pass
WCA3	Outflow	S344	3.51	4	2.78	0.51	7.17	2.06	Pass
WCA3	Outflow	S355A	7.04	12	1.03	5.32	8.65	2.51	Pass
WCA3	Outflow	S355B	6.06	12	1.13	4.2	7.62	2.69	Pass
WCA3	Outflow	US41-25	2.43	18	1.53	0.77	6.24	2.55	Fail