

**A.R.M. Loxahatchee National Wildlife Refuge  
Enhanced Water Quality Monitoring Network**

**Coordinates of sites:**

Name	Latitude	Longitude	X_DMS*	Y_DMS*	X_DM**	Y_DM**
LOXA101	26.667392489	-80.366364752	80° 21' 58.91" W	26° 40' 2.61" N	80° 21.9818333' W	26° 40.0435' N
LOXA102	26.595988767	-80.425537688	80° 25' 31.94" W	26° 35' 45.56" N	80° 25.532333' W	26° 35.7593333333333' N
LOXA103	26.612851423	-80.416436308	80° 24' 59.17" W	26° 36' 46.27" N	80° 24.98616667' W	26° 36.7711666666667' N
LOXA104	26.597981879	-80.440045081	80° 26' 24.16" W	26° 35' 52.73" N	80° 26.4026667' W	26° 35.8788333333333' N
LOXA105	26.591899226	-80.436094071	80° 26' 9.94" W	26° 35' 30.84" N	80° 26.1656667' W	26° 35.514' N
LOXA106	26.592206216	-80.431280960	80° 25' 52.61" W	26° 35' 31.94" N	80° 25.876833' W	26° 35.5323333333333' N
LOXA107	26.587390459	-80.421444676	80° 25' 17.20" W	26° 35' 14.61" N	80° 25.286667' W	26° 35.2435' N
LOXA108	26.577960101	-80.405853442	80° 24' 21.07" W	26° 34' 40.66" N	80° 24.35116667' W	26° 34.6776666666667' N
LOXA109	26.555288645	-80.432051570	80° 25' 55.39" W	26° 33' 19.04" N	80° 25.92316667' W	26° 33.3173333333333' N
LOXA110	26.555239734	-80.417691537	80° 25' 3.69" W	26° 33' 18.86" N	80° 25.0615' W	26° 33.3143333333333' N
LOXA111	26.525335828	-80.413147047	80° 24' 47.33" W	26° 31' 31.21" N	80° 24.7888333' W	26° 31.5201666666667' N
LOXA112	26.527124275	-80.428373322	80° 25' 42.14" W	26° 31' 37.65" N	80° 25.702333' W	26° 31.6275' N
LOXA113	26.524427841	-80.406998750	80° 24' 25.20" W	26° 31' 27.94" N	80° 24.42' W	26° 31.4656666666667' N
LOXA114	26.524392580	-80.400839654	80° 24' 3.02" W	26° 31' 27.81" N	80° 24.050333' W	26° 31.4635' N
LOXA115	26.484225781	-80.445336745	80° 26' 43.21" W	26° 29' 3.21" N	80° 26.7201667' W	26° 29.0535' N
LOXA116	26.483058602	-80.441097999	80° 26' 27.95" W	26° 28' 59.01" N	80° 26.4658333' W	26° 28.9835' N
LOXA117	26.485804269	-80.435685796	80° 26' 8.47" W	26° 29' 8.90" N	80° 26.14116667' W	26° 29.1483333333333' N
LOXA118	26.489289243	-80.426390912	80° 25' 35.01" W	26° 29' 21.44" N	80° 25.5835' W	26° 29.3573333333333' N
LOXA119	26.486214619	-80.401808449	80° 24' 6.51" W	26° 29' 10.37" N	80° 24.1085' W	26° 29.1728333333333' N
LOXA120	26.493410539	-80.383079866	80° 22' 59.09" W	26° 29' 36.28" N	80° 22.9848333' W	26° 29.6046666666667' N
LOXA121	26.467676727	-80.441132313	80° 26' 28.08" W	26° 28' 3.64" N	80° 26.468' W	26° 28.0606666666667' N
LOXA122	26.464042966	-80.428433669	80° 25' 42.36" W	26° 27' 50.55" N	80° 25.706' W	26° 27.8425' N
LOXA123	26.426753074	-80.400363722	80° 24' 1.31" W	26° 25' 36.31" N	80° 24.0218333' W	26° 25.6051666666667' N
LOXA124	26.455353967	-80.238754550	80° 14' 19.52" W	26° 27' 19.27" N	80° 14.325333' W	26° 27.3211666666667' N
LOXA126	26.506011481	-80.225851709	80° 13' 33.07" W	26° 30' 21.64" N	80° 13.55116667' W	26° 30.3606666666667' N
LOXA127	26.515134740	-80.255559757	80° 15' 20.02" W	26° 30' 54.49" N	80° 15.3336667' W	26° 30.9081666666667' N
LOXA128	26.525162864	-80.394012101	80° 23' 38.44" W	26° 31' 30.59" N	80° 23.6406667' W	26° 31.5098333333333' N
LOXA129	26.585007262	-80.266082555	80° 15' 57.90" W	26° 35' 6.03" N	80° 15.965' W	26° 35.1005' N
LOXA130	26.582118809	-80.270055306	80° 16' 12.20" W	26° 34' 55.63" N	80° 16.20333' W	26° 34.9271666666667' N
LOXA131	26.574747906	-80.277646525	80° 16' 39.53" W	26° 34' 29.09" N	80° 16.6588333' W	26° 34.4848333333333' N
LOXA132	26.609005614	-80.291899387	80° 17' 30.84" W	26° 36' 32.42" N	80° 17.514' W	26° 36.5403333333333' N
LOXA133	26.605089596	-80.295574907	80° 17' 44.07" W	26° 36' 18.32" N	80° 17.7345' W	26° 36.3053333333333' N
LOXA134	26.609856637	-80.308603250	80° 18' 30.97" W	26° 36' 35.48" N	80° 18.51616667' W	26° 36.5913333333333' N
LOXA135	26.623355381	-80.316122757	80° 18' 58.04" W	26° 37' 24.08" N	80° 18.967333' W	26° 37.4013333333333' N
LOXA136	26.618793017	-80.318666883	80° 19' 7.20" W	26° 37' 7.65" N	80° 19.12' W	26° 37.1275' N
LOXA137	26.615103372	-80.321703271	80° 19' 18.13" W	26° 36' 54.37" N	80° 19.30216667' W	26° 36.9061666666667' N
LOXA138	26.606816926	-80.326665374	80° 19' 36.00" W	26° 36' 24.54" N	80° 19.6' W	26° 36.409' N
LOXA139	26.593325251	-80.337153885	80° 20' 13.75" W	26° 35' 35.97" N	80° 20.22916667' W	26° 35.5995' N
LOXA140	26.637603226	-80.349094316	80° 20' 56.74" W	26° 38' 15.37" N	80° 20.9456667' W	26° 38.2561666666667' N

\* DMS = Degrees Minutes Seconds

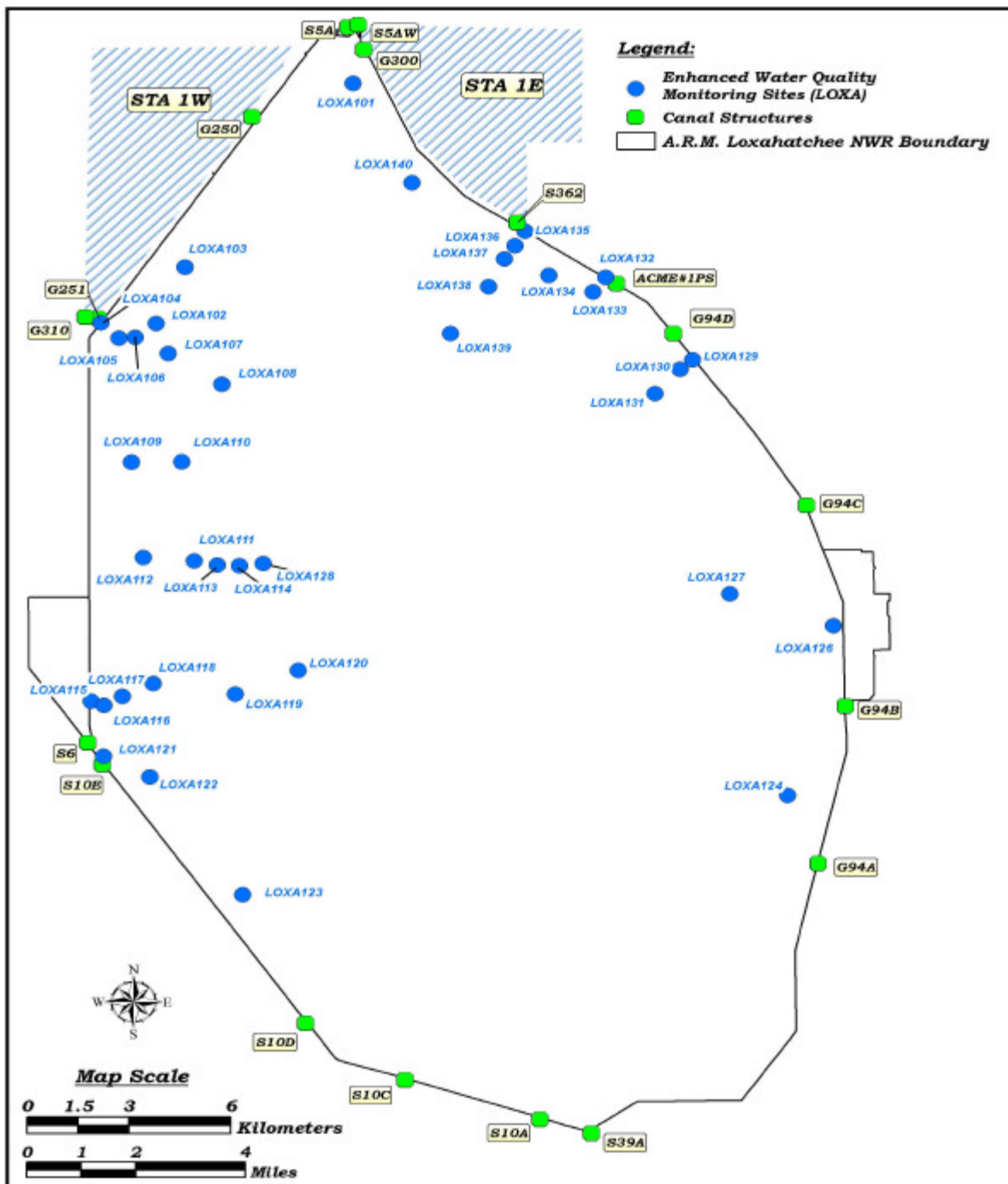
\*\* DM = Degrees Minutes Decimal Minutes

Additional information on the coordinates for the Enhanced Water Quality Monitoring Network can be found at:

[http://sofia.usgs.gov/lox\\_monitor\\_model/workplans/EnhancedWQsamplingStations\\_.pdf](http://sofia.usgs.gov/lox_monitor_model/workplans/EnhancedWQsamplingStations_.pdf)

# A.R.M. Loxahatchee National Wildlife Refuge Enhanced Water Quality Monitoring Network

Map of sites:



**A.R.M. Loxahatchee National Wildlife Refuge  
Enhanced Water Quality Monitoring Network**

Parameter Information:

<b>Parameter</b>	<b>Units</b>	<b>Analysis Method</b>	<b>MDL</b>
Alkalinity as CaCO <sub>3</sub> , Total	mg/L	310.1	1.9
Calcium Dissolved (1)	mg/L	200.7	0.014
Carbon, Dissolved Organic	mg/L	415.1	0.5
Carbon, Total Organic	mg/L	415.1	0.5
Chloride	mg/L	300.0	0.052
Conductivity (field)	uMHOS/cm	120.1 (field)	-
Nitrate + Nitrite as Nitrogen	mg/L	300.0	0.004
Nitrogen, Total Kjeldahl (TKN)	mg/L	351.2	0.1
Ortho-phosphate as Phosphorus	mg/L	365.1	0.003
Oxygen, Dissolved (Field)	mg/L	360.1	1
pH (Field)	pH units	150.1	-
Phosphorus, Total	mg/L	365.3	0.003
Silica	mg/L	370.1	0.068
Solids, Total Dissolved (TDS)	mg/L	160.1	4.7
Solids, Total Suspended (TSS)	mg/L	160.2	1.6
Sulfate	mg/L	300.0	0.16
Temperature (Field)	DEG C	170.1	-
Turbidity	NTU	180.1	0.17

(1) Calcium MDL was 0.20 in June 2006

Note: Nitrate and Nitrite not analyzed after June 2006

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Site	Sample Month	Collection Date	Re-Analysis Date (1)	Sample - Full (F), Partial (P), None (N), Reanalyzed (R)	Field Depth (2)	Total Depth (3)	DCS	Alkalinity	Calcium Dissolved	Carbon, Dissolved Organic	Carbon, Total Organic	Chloride	Conductivity (field)	Nitrate + Nitrite as Nitrogen	Nitrogen, Total Kjeldahl (TKN)	Ortho-phosphate as Phosphorus	Oxygen, Dissolved (Field)	pH (Field)	Phosphorus, Total	Silica	Solids, Total Dissolved (TDS)	Solids, Total Suspended (TSS)	Sulfate	Temperature (Field) DEG C	Turbidity NTU	Comments	
LOXA101	Jul-06	7/19/2006		P	0.09	0.18	0.23					110	696	0.004			3.8	7.0	0.028				16.00	29.4			
LOXA101	Jul-06	7/19/2006	8/16/2006	R															0.023								
LOXA102	Jul-06	7/19/2006		P	0.06	0.12	0.19					73	488	0.008				2.3	6.7	0.017				30.00	26.8		
LOXA103	Jul-06	7/19/2006		P	0.07	0.14	0.22					81	549	0.010				2.3	6.6	0.017				28.00	26.2		
LOXA104	Jul-06	7/19/2006		F	0.50	>1.0	>1.0	220	71	29	31	110	874	0.030	2.1	0.062	3.1	7.4	0.110	24	580	5.0	56.00	30.1	3		
LOXA105	Jul-06	7/19/2006		P	0.09	0.19	0.29					98	793	0.006				1.9	6.9	0.049				40.00	26.4		
LOXA105	Jul-06	7/19/2006	8/16/2006	R																							
LOXA106	Jul-06	7/19/2006		P	0.09	0.19	0.21					80	576	0.007				0.9	6.6	0.017				28.00	25.2		
LOXA107	Jul-06	7/9/2006		N		0.08	0.12																				
LOXA108	Jul-06	7/20/2006		N		0.08	0.13																				no sample; could not land due to thick sawgrass
LOXA109	Jul-06	7/19/2006		F	0.20	0.41	0.44	80	23	24	27	52	355	0.010	1.3	U	1.8	6.6	0.008	8	240	3.5	16.00	27.9	1	no sample; tdepth:10	
LOXA110	Jul-06	7/19/2006		P	0.08	0.17	0.28					19	129	0.010				3.4	6.6	0.010				0.54	27.8		
LOXA110	Jul-06	7/19/2006	8/16/2006	R																							
LOXA111	Jul-06	7/19/2006		P	0.09	0.19	0.30					13	107	0.005				2.5	6.4	0.021				0.73	27.0		
LOXA111	Jul-06	7/19/2006	8/16/2006	R																							
LOXA112	Jul-06	7/19/2006		F	0.14	0.29	0.41	50	14	19	20	25	119	0.010	1.2	U	2.4	6.7	0.004	4	140	2.5	4.80	28.6	1		
LOXA113	Jul-06	7/19/2006		P	0.08	0.17	0.31					17	116	0.004				3.1	6.5	0.014				0.57	27.5		
LOXA114	Jul-06	7/19/2006		P	0.08	0.17	0.32					19	129	0.004				2.6	6.3	0.004				U	26.8		
LOXA115	Jul-06	7/17/2006		F	0.05	>1	>1.0	260	81	30	32	120	928	0.270	2.0	0.078	3.1	7.4	0.120	23	600	4.0	65.00	29.7	6		
LOXA116	Jul-06	7/17/2006		F	0.27	0.54	0.88	210	79	30	31	110	861	0.006	1.7	0.041	0.5	7.1	0.090	24	580	2.5	57.00	26.8	2		
LOXA117	Jul-06	7/17/2006		F	0.14	0.29	0.33	70	22	23	26	41	189	0.005	0.7	U	1.7	6.7	0.020	5	210	U	8.00	26.3	1		
LOXA118	Jul-06	7/17/2006		F	0.13	0.27	0.47	50	12	13	15	17	147	0.004	0.4	U	3.8	6.6	0.005	3	97	U	3.60	28.7	1		
LOXA119	Jul-06	7/17/2006		F	0.17	0.35	0.41	30	7	12	13	13	96	0.008	0.6	0.003	4.0	6.4	0.020	3	73	5.0	0.83	27.9	1		
LOXA120	Jul-06	7/17/2006		F	0.18	0.36	0.45	20	7	15	17	19	107	U	1.0	U	4.5	6.5	0.010	3	93	U	U	30.8	1		
LOXA121	Jul-06	7/17/2006		N																							no sample; did not land due to thick cattail
LOXA122	Jul-06	7/17/2006		F	0.13	0.27	0.42	160	54	26	28	66	586	U	1.3	U	1.3	7.0	0.010	9	380	U	16.00	28.9	1		
LOXA123	Jul-06	7/17/2006		N																							no sample; could not land due to vegetation; approx. water depth .05-.09
LOXA124	Jul-06	7/18/2006		F	0.13	0.27	0.52	85	27	21	21	63	385	0.005	1.0	0.005	0.7	6.6	0.020	7	260	3.0	4.80	27.7	1		
LOXA124	Jul-06	7/18/2006	8/16/2006	R																							
LOXA126	Jul-06	7/18/2006		F	0.13	0.27	0.40	180	58	24	27	89	692	U	1.5	U	0.5	6.9	0.020	9	440	2.0	30.00	27.6	3		
LOXA126	Jul-06	7/18/2006	8/16/2006	R																							
LOXA127	Jul-06	7/18/2006		P	0.10	0.20	0.36						121					1.8	6.2	U					29.4		
LOXA128	Jul-06	7/17/2006		P	0.05	0.10	0.20					22	127	0.004				8.3	6.6	0.003				U	33.6		
LOXA129	Jul-06	7/18/2006		F	0.50	>1.0	>1.0	220	65	25	27	110	801	0.009	1.5	0.035	2.6	7.2	0.068	15	520	6.0	47.00	26.9	5		
LOXA130	Jul-06	7/18/2006		F	0.13	0.26	0.38	160	49	28	31	100	650	0.006	1.4	0.003	0.4	6.7	0.030	10	420	U	6.30	27.2	3		
LOXA130	Jul-06	7/18/2006	8/16/2006	R																							
LOXA131	Jul-06	7/18/2006		F	0.13	0.26	0.31	70	20	24	25	45	270	0.008	1.2	U	2.3	6.5	0.010	10	210	U	1.10	28.0	2		
LOXA132	Jul-06	7/18/2006		F	0.50	>1.0	>1.0	190	68	25	27	110	800	0.006	1.6	0.023	2.2	7.2	0.080	15	500	3.0	48.00	29.9	3		
LOXA133	Jul-06	7/18/2006		N																							
LOXA134	Jul-06	7/18/2006		P	0.09	0.18	0.35					110	603	0.005				1.2	6.8	0.007				11.00	28.8		
LOXA135	Jul-06	7/19/2006		F	0.50	>1.0	>1.0	190	62	26	29	100	796	0.004	1.9	0.024	4.7	7.4	0.100	17	500	7.3	46.00	30.0	4		
LOXA136	Jul-06	7/20/2006		N																							no sample; could not land
LOXA137	Jul-06	7/20/2006		F	0.16	0.33	0.41	110	35	33	33	99	543	0.020	1.8	U	1.4	6.6	0.010	12	350	U	11.00	27.5	1		
LOXA138	Jul-06	7/20/2006		P	0.08	0.17	0.24					38	233	0.004				3.6	6.4	0.008				1.00	27.1		
LOXA139	Jul-06	7/20/2006		P	0.05	0.11	0.15					24	146	0.005				3.7	6.3	0.005				U	26.5		
LOXA140	Jul-06	7/19/2006		P	0.08	0.17	0.25					59	306	0.010				5.8	6.8	0.020				0.87	31.8		
LOXA140	Jul-06	7/19/2006	8/16/2006	R																							

Number of Full Samples: 18  
Number of Partial Samples: 15  
Number of No Samples: 6  
Total Sites: 39

Number of Reanalyzed Samples: 8

- (1) Samples are occasionally re-analyzed for TP (within their 28-day holding period)
  - (2) Field depth is one half of the tdepth (depth of the clear water column) and is only recorded if a sample is taken.
  - (3) Total depth is depth of the clear water column.
- U indicates that the compound was analyzed for but not detected; see page 3 for table of MDLs.

Additional information on the Enhanced Water Quality Monitoring Network can be found at:

[http://sofia.usgs.gov/lox\\_monitor\\_model/wq\\_network.html](http://sofia.usgs.gov/lox_monitor_model/wq_network.html)

Data from June 2004 to May 2006 available on DBHYDRO:

<http://www.sfwmd.gov/org/ema/dbhydro/>

Field notes are maintained by the Everglades Program Team at the A.R.M. Loxahatchee National Wildlife Refuge.