FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

			TPBBSW-3B		TPBBSW-4B		TPBBSW-5B		091015-DUP1		TPSWC-1T		TPSWC-1B		TPSWC-2T		TPSWC-2B		TPSW
Method	Parameter	Units	09/10/2015		09/10/2015		09/10/2015		09/10/2015		09/14/2015		09/14/2015		09/14/2015		09/14/2015		09/14
Field - FT1400	**Temperature**	°C	31.98		31.93		31.34				30.89		29.52		30.55		30.26		30.42
Field - FT1100	**pH**	SU	8.09		7.93		7.77				7.59		7.53		7.70		7.62		7.81
Field - FT1500	**Dissolved Oxygen**	mg/L	6.36		5.28		3.92				4.92		5.58		4.47		3.34		3.98
Field - FT1200	**Specific Conductance**	µS/cm	58277		58665		61990				592		568		712		651		637
Field - FT1600	**Turbidity**	NTU	0.62		0.32		1.93				0.47		2.11		1.47		1.61		1.50
200.7	**Silica, dissolved**	mg/L																	
6010B	**Calcium**	mg/L	430		435	J	464		456		56.1		72.3		52.2		47.1		47.7
6010B	**Magnesium**	mg/L	1220	J	1230	J-	1300	J	1280		7.11		5.65		7.73		7.54		7.09
6010B	**Potassium**	mg/L	483		475	J	520		518		4.99		6.54		3.62		3.56		3.55
6010B	**Sodium**	mg/L	11000		11000	J	11900		11600		52.7		35.9		76.7		70.8		67.6
6010B	**Boron**	mg/L	5.13		5.08		5.49		5.46		0.063		0.060		0.055		0.056		0.059
6010B	**Strontium**	mg/L	8.41		8.29		9.12		9.10		0.595		0.764		0.645		0.594		0.583
300.0_28D	**Bromide**	mg/L	72.3		73.0	J	77.9		77.7		0.260	Q	0.196	Q	0.327	Q	0.367	Q	0.264
300.0_28D	**Chloride**	mg/L	19600		21700	J	23200		23900		92.9		57.9		155		123		109
SM4500_F_C	**Fluoride**	mg/L	1.03	J	0.990	J-	1.01	J	1.03		0.0900	I	0.160		0.110		0.100		0.100
300.0_28D	**Sulfate**	mg/L	2900		2910	J	3110		3130		7.92		17.2		5.02		3.80		3.27
SM4500_NH3_G	**Total Ammonia**	mg/L as N	0.100	U	0.100	U	0.100	U	0.100	U	0.114	I	0.100	U	0.147	I	0.159	I	0.164
DEP SOP - calc	**Ammonium ion (NH_4^+)**	mg/L	0.0500	U	0.0500	U	0.0500	U			0.142		0.0500	U	0.181		0.198		0.200
DEP SOP - calc	**Unionized NH_3**	mg/L	0.000017	U	0.000017	U	0.000017	U			0.004460		0.000017	U	0.007180		0.006380		0.010100
353.2	**Nitrate/Nitrite**	mg/L as N	0.0250	U	0.0250	U	0.0250	U	0.0250	U	0.0695		0.244		0.0250	U	0.0250	U	0.0250
351.2	**TKN**	mg/L	0.506		0.618		0.592		0.632		0.996		0.580		1.02		1.40		1.22
calc	**TN**	mg/L	0.53		0.64		0.62		0.66		1.07		0.82		1.05		1.43		1.25
SM4500_P_E	**ortho-Phosphate**	mg/L	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210
365.1	**Total Phosphorus (P)**	mg/L	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300
2320B	**Alkalinity**	mg/L	131		131	J	145		145		154		195		122		116		120
2320B	**Bicarbonate Alkalinity**	mg/L as HCO_3	128		149	J	177		177		178		227		149		142		146
SM4500_S2_F	**Sulfide**	mg/L	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360
2540C	**Total Dissolved Solids**	mg/L																	
PSS-78	**Salinity**	*	38.67		38.96		41.51				0.28	J	0.27	J	0.34	J	0.31	J	0.31
USGS	**Tritium**	pCi/L																	

NOTE: Laboratory results are reported with 3 digits although only the first 2 are significant figures.

*** Result not reported

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

		/C-3T	TPSWC-3B	
Parameter	**Units**	**/2015**	**09/14/2015**	
Temperature	°C		30.60	
pH	SU		7.72	
Dissolved Oxygen	mg/L		4.08	
Specific Conductance	µS/cm		636	
Turbidity	NTU		1.27	
Silica, dissolved	mg/L			
Calcium	mg/L		48.4	
Magnesium	mg/L		7.20	
Potassium	mg/L		3.58	
Sodium	mg/L		68.2	
Boron	mg/L		0.060	
Strontium	mg/L		0.588	
Bromide	mg/L	Q	0.264	Q
Chloride	mg/L		133	
Fluoride	mg/L		0.100	
Sulfate	mg/L		3.41	
Total Ammonia	mg/L as N	I	0.158	I
Ammonium ion (NH_4^+)	mg/L		0.195	
Unionized NH_3	mg/L		0.008090	
Nitrate/Nitrite	mg/L as N	UJ-	0.0250	U
TKN	mg/L		1.20	
TN	mg/L		1.23	
ortho-Phosphate	mg/L	U	0.00210	U
Total Phosphorus (P)	mg/L	U	0.00300	U
Alkalinity	mg/L		121	
Bicarbonate Alkalinity	mg/L as HCO_3		147	
Sulfide	mg/L	U	0.360	U
Total Dissolved Solids	mg/L			
Salinity	*	J	0.31	J
Tritium	pCi/L			

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

		TPSWC-4T		TPSWC-4B		TPSWC-5T		090115-DUP1		TPSWC-5B		TPSWC-6T		TPSWC-6B		TPSWID-1T		TPSWID-1B	
Parameter	**Units**	09/01/2015		09/01/2015		09/01/2015		09/01/2015		09/01/2015		09/11/2015		09/11/2015		09/08/2015		09/08/2015	
Temperature	°C	31.23		33.68		31.44				31.29		27.37		27.39		30.68		30.62	
pH	SU	7.70		7.41		7.81				7.80		7.45		7.37		7.92		7.81	
Dissolved Oxygen	mg/L	3.12		0.11		4.32				3.13		1.60		1.41		5.08		4.12	
Specific Conductance	µS/cm	9537		52709		56240				59003		798		791		8778		9694	
Turbidity	NTU	1.35		4.09		0.66				0.78		0.03		0.01	J	0.82		1.56	
Silica, dissolved	mg/L																		
Calcium	mg/L	186		437	J	423		440		443		96.1		95.1		146	J	157	
Magnesium	mg/L	161		1100	J	1210		1110		1270		8.90		8.80		128	J	146	
Potassium	mg/L	52.5		389	J	432		398		457		10.0		9.98		51.9	J	59.9	
Sodium	mg/L	1460		10300	J	11100		10200		11400		42.3		42.3		1250	J	1410	
Boron	mg/L	0.590		4.22		4.76		4.31		5.03		0.077		0.077		0.496		0.563	
Strontium	mg/L	2.33		7.66		7.93		7.77		8.38		1.11		1.10		2.03		2.21	
Bromide	mg/L	7.51		92.1	J	66.0		55.6		68.6		0.431		0.421		8.27	J	9.27	
Chloride	mg/L	2620		21700	J	19900		18200		21100		91.2		72.8		2560	J	2810	
Fluoride	mg/L	0.209		0.882	J	0.972		0.899		0.992		0.130		0.130		0.153	J	0.156	
Sulfate	mg/L	328		2450	J	3740	J	2480	J	2900		43.0		42.7		296	J	319	
Total Ammonia	mg/L as N	0.262		0.100	U	0.100	U	0.100	U	0.103	I	0.100	U	0.103	I	0.147	I	0.151	I
Ammonium ion (NH_4^+)	mg/L	0.323		0.0500	U	0.0500	U			0.125		0.0500	U	0.130		0.177		0.305	
Unionized NH_3	mg/L	0.013400		0.000017	U	0.000017	U			0.006580		0.000017	U	0.001940		0.011700		0.015600	
Nitrate/Nitrite	mg/L as N	0.0290	I	0.0250	U	0.0266	I	0.0250	U	0.0302	I	0.0250	U	0.0250	U	0.0250	U	0.0250	U
TKN	mg/L	1.39		0.840		0.258	I	0.786		0.340	I	0.590		0.446		0.712		0.952	
TN	mg/L	1.42		0.87		0.28		0.81		0.37		0.62		0.47		0.74		0.98	
ortho-Phosphate	mg/L	0.00210	U	0.00210	U Q	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U
Total Phosphorus (P)	mg/L	0.00300	U	0.00739	I	0.00300	U	0.00564	I	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00394	I
Alkalinity	mg/L	159		185	J	128	J	186	J	131		241		239		232	J	239	
Bicarbonate Alkalinity	mg/L as HCO_3	193		226	J	156	J	227	J	160		286		292		259	J	278	
Sulfide	mg/L	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	4.56		0.360	U
Total Dissolved Solids	mg/L																		
Salinity	*	5.30		34.45		37.16				39.24		0.39	J	0.38	J	4.85		5.40	
Tritium	pCi/L																		

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

		TPSWID-2T		TPSWID-2B		TPSWID-3T		TPSWID-3B		TPSWCCS-1B		TPSWCCS-2B		090215-DUP1		TPSWCCS-3B		TPSWCCS-4T	
Parameter	**Units**	**09/08/2015**		**09/08/2015**		**09/08/2015**		**09/08/2015**		**09/08/2015**		**09/02/2015**		**09/02/2015**		**09/08/2015**		**09/08/2015**	
Temperature	°C	30.44		30.28		32.30		30.87		38.78		34.73				35.76		34.22	
pH	SU	7.75		6.92		7.73		7.39		7.69		7.76				7.48		7.83	
Dissolved Oxygen	mg/L	4.60		0.34		4.94		3.22		0.50		1.25				0.07		2.75	
Specific Conductance	µS/cm	3783		10866		4622		4223		94195		108502	J			103245	J	101838	J
Turbidity	NTU	1.99		6.94		1.72		0.57		116.0		117.5				138.8		126.0	
Silica, dissolved	mg/L									10.9		11.3		11.7		11.1		11.3	
Calcium	mg/L	103		217		129		124		838		962		946		853		854	
Magnesium	mg/L	51.1		154		61.6		56.1		2080	J-	2440		2390		2160		2190	
Potassium	mg/L	19.8		63.0		25.0		22.1		863		964		948		945		958	
Sodium	mg/L	500		1600		644		577		18600		22500		21900		20600		20700	
Boron	mg/L	0.194		0.567		0.220		0.198		9.46		10.9		10.5		10.2		10.3	
Strontium	mg/L	1.26		2.85		1.56		1.43		18.1		20.8		20.500		19.2		19.4	
Bromide	mg/L	3.08		10.9		3.93		3.55		14.3		154	J	150		138	J	134	J
Chloride	mg/L	984		3260		1250		1140		36200		44700	J	44800		41200	J	41300	J
Fluoride	mg/L	0.119		0.159		0.128		0.0730	I	1.01	J	1.07	J	1.09		0.917	J	1.01	J
Sulfate	mg/L	122		332		129		115		5240		6090	J	6200		5890	J	5930	J
Total Ammonia	mg/L as N	0.131	I	0.491		0.137	I	0.186	I	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U
Ammonium ion (NH_4^+)	mg/L	0.160		0.627		0.168		0.234		0.0500	U	0.0500	U			0.0500	U	0.0500	U
Unionized NH_3	mg/L	0.007040		0.004040		0.008010		0.004640		0.000017	U	0.000017	U			0.000017	U	0.000017	U
Nitrate/Nitrite	mg/L as N	0.0775		0.0250	U	0.0250	U	0.0250	U	0.0483	I	0.0250	U	0.0250	U	0.0250	U	0.0250	U
TKN	mg/L	0.808		1.10		0.894		0.846		4.74		8.02		8.38		8.52		7.76	
TN	mg/L	0.89		1.13		0.92		0.87		4.79		8.05		8.41		8.55		7.79	
ortho-Phosphate	mg/L	0.00210	U	0.00210	U	0.00293	I	0.00210	U	0.00210	UJ-	0.00210	U	0.00210	U	0.00210	UJ	0.00210	UJ
Total Phosphorus (P)	mg/L	0.00428	I	0.00876	I	0.00300	U	0.00362	I	0.0655		0.0763		0.0792		0.0733		0.0709	
Alkalinity	mg/L	176		310		212		210		193		195	J	200		215	J	201	J
Bicarbonate Alkalinity	mg/L as HCO_3	208		378		240		256		235		***		***		262	J	245	J
Sulfide	mg/L	0.360	U	0.360	U	1.80	U	0.360	U	1.80	U	0.360	U	0.360	U	2.52	I	1.80	U
Total Dissolved Solids	mg/L									61300									
Salinity	*	1.98	J	6.11		2.44		2.22		66.96		80.03	J			74.91	J	73.82	J
Tritium	pCi/L																		

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

		TPSWCCS-5T	
Parameter	**Units**	**09/08/2015**	
Temperature	°C	34.74	
pH	SU	7.84	
Dissolved Oxygen	mg/L	2.93	
Specific Conductance	µS/cm	102801	J
Turbidity	NTU	121.0	
Silica, dissolved	mg/L	11.3	
Calcium	mg/L	859	
Magnesium	mg/L	2190	
Potassium	mg/L	952	
Sodium	mg/L	20000	
Boron	mg/L	10.2	
Strontium	mg/L	19.1	
Bromide	mg/L	137	J
Chloride	mg/L	40900	J
Fluoride	mg/L	1.03	J
Sulfate	mg/L	5200	J
Total Ammonia	mg/L as N	0.100	U
Ammonium ion (NH_4^+)	mg/L	0.0500	U
Unionized NH_3	mg/L	0.000017	U
Nitrate/Nitrite	mg/L as N	0.0250	U
TKN	mg/L	7.42	
TN	mg/L	7.45	
ortho-Phosphate	mg/L	0.00210	UJ
Total Phosphorus (P)	mg/L	0.0695	
Alkalinity	mg/L	200	J
Bicarbonate Alkalinity	mg/L as HCO_3	244	J
Sulfide	mg/L	1.80	U
Total Dissolved Solids	mg/L		
Salinity	*	74.59	J
Tritium	pCi/L		

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

		TPSWCCS-7B		090115-EB		090215-FB1		090815-FB1		091015-FB1		091115-FB1		091415-FB1	
Parameter	**Units**	**09/08/2015**		**09/01/2015**		**09/02/2015**		**09/08/2015**		09/10/2015		**09/11/2015**		**09/14/2015**	
Temperature	°C	36.57													
pH	SU	7.83													
Dissolved Oxygen	mg/L	3.86													
Specific Conductance	µS/cm	92674	J												
Turbidity	NTU	115.6													
Silica, dissolved	mg/L	10.5		0.050	U	0.050	U	0.050	U	0.050	U			0.050	U
Calcium	mg/L	800		0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U
Magnesium	mg/L	2060	J	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U	0.0200	U
Potassium	mg/L	847		0.190	U	0.190	U	0.190	U	0.190	U	0.190	U	0.190	U
Sodium	mg/L	17300		0.310	U	0.310	U	0.310	U	0.310	U	0.310	U	0.310	U
Boron	mg/L	9.17		0.010	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010	U
Strontium	mg/L	17.3		0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromide	mg/L	117	J	0.0250	U	0.0250	U	0.0250	U	0.0250	U	0.0250	U Q	0.0250	U Q
Chloride	mg/L	35800	J	0.200	U	0.200	U	0.200	U	0.252	I	0.200	U	0.200	U
Fluoride	mg/L	0.972	J	0.0320	U	0.0320	U	0.0320	U	0.0320	U	0.0320	U	0.0320	U
Sulfate	mg/L	4960	J	0.400	U Q	0.400	U	0.400	U	2.28		0.400	U	0.400	U
Total Ammonia	mg/L as N	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U
Ammonium ion (NH_4^+)	mg/L	0.0500	U												
Unionized NH_3	mg/L	0.000017	U												
Nitrate/Nitrite	mg/L as N	0.0250	U	0.00500	U	0.00500	U	0.00500	U	0.00500	U	0.00500	U	0.00500	U
TKN	mg/L	6.82		0.100	U	0.100	U	0.100	U	0.100	U	0.100	U	0.100	U
TN	mg/L	6.85		0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
ortho-Phosphate	mg/L	0.00210	UJ	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.00210	U
Total Phosphorus (P)	mg/L	0.0621		0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U	0.00300	U
Alkalinity	mg/L	199	J	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Bicarbonate Alkalinity	mg/L as HCO_3	242	J	1.00	U			1.00	U	1.00	U	1.00	U	1.00	U
Sulfide	mg/L	1.80	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U	0.360	U
Total Dissolved Solids	mg/L			5.00	U	5.00	U	5.00	U	5.00	U			5.00	U
Salinity	*	65.69	J												
Tritium	pCi/L														

FPL Turkey Point Uprate Monitoring Project
September 2015 Semiannual Sampling Event
SDG: Qtr 3 2015 SW

Notes

Laboratory results are reported with 3 digits although only the first 2 are significant figures.
* PSS-78 salinity is unitless.
** Schemel, L.E., 2001. Simplified conversions between specific conductance and salinity units for use with data from monitoring stations. Interagency Ecological Program for the San Francisco Estuary Newsletter. 14(1):17−18.
***result not reported in L4
Sample 090115-Dup is a duplicate of TPSWC-5T.
Sample 090215-Dup is a duplicate of TPSWCCS-2T.
Sample 091015-Dup is a duplicate of TPBBSW-5B.

Key

°C = Degrees Celsius.
µg/L = Microgram(s) per liter.
µmho/cm = Micromho(s) per centimeter.
µS/cm = MicroSiemen(s) per centimeter.
ABS = Absolute value.
HCO_3 = Bicarbonate ion.
DEP SOP = Department of Environmental Protection Standard Operating Procedure.
mg/L = Milligram(s) per liter.
N.A. = Not applicable.
NH_3 = Ammonia.
NH_4^+ = Ammonium ion.
NTU = Nephelometric Turbidity Units(s).
pCi/L = PicoCuries per liter.
ppt = Parts per thousand.
PQL = Practical Quantitation Limit.
PSS-78 = Practical Salinity Scale of 1978.
RPD = Relative Percent Difference.
SC = Specific conductance.
SDG = Sample Delivery Group.
SU = Standard Unit(s).
TDS = Total Dissolved Solids.
TKN = Total Kjeldahl nitrogen.
TN = Total nitrogen.
TPBBSW = Turkey Point Biscayne Bay Surface Water
TPSWC = Turkey Point Surface Water Canal
TPSWID = Turkey Point Surface Water Interceptor Ditch
TPSWCCS = Turkey Point Surface Water Cooling Canal System