

FPL Turkey Point Uprate Monitoring Project
March 2015 Semiannual Sampling Event
SDG: Qtr 1 2015 GW

		TPGW-1S	TPGW-1M	TPGW-1D	TPGW-2S	TPGW-2M	030315-Dup	TPGW-2D
Parameter	Units	03/05/2015	03/05/2015	03/05/2015	03/03/2015	03/03/2015	03/03/2015	03/03/2015
Temperature	°C	26.36	26.53	26.54	26.31	26.66		27.00
pH	SU	6.96	7.02	6.95	7.11	6.92		6.91
Dissolved Oxygen	mg/L	0.09	0.16	0.11	0.06	0.15		0.10
Specific Conductance	µS/cm	52625	71488	J	72112	J	68816	J
Turbidity	NTU	2.59	8.50	0.16	0.32	0.03		0.16
Silica, dissolved	mg/L							
Calcium	mg/L	527	619	632	674	654	664	664
Magnesium	mg/L	1270	1750	1780	1590	1690	1730	1740
Potassium	mg/L	358	546	560	563	620	629	635
Sodium	mg/L	9600	13300	13700	12400	13400	13500	13800
Boron	mg/L	3.84	I	5.76	5.93	5.94	6.62	6.68
Strontium	mg/L	9.24		11.60	12.00	13.00	14.00	14.20
Bromide	mg/L	67.8		99.2	J	97.3	J	93.5
Chloride	mg/L	19000		28100	J	28700	J	27400
Fluoride	mg/L	0.210		0.260	J	0.270	J	0.230
Sulfate	mg/L	2620		3630	J	3720	J	3420
Total Ammonia	mg/L as N	1.130	J	1.500	J	1.690	J	1.950
Ammonium ion (NH ₄ ⁺)	mg/L	1.44	J	1.92	J	2.16	J	2.49
Unionized NH ₃	mg/L	0.009	J	0.011	J	0.013	J	0.015
Nitrate/Nitrite	mg/L as N	0.0250	U	0.0250	U	0.0250	U	0.0336
TKN	mg/L	1.83		2.30		1.21	J	2.46
TN	mg/L	1.86		2.33		1.24	J	2.49
ortho-Phosphate	mg/L	0.0193		0.0314		0.0487		0.0184
Total Phosphorus (P)	mg/L	0.0342		0.0587		0.0463		0.0293
Alkalinity	mg/L	254		185	J	183	J	167
Bicarbonate Alkalinity	mg/L as HCO ₃	310		226	J	224	J	204
Sulfide	mg/L	0.23		0.25		0.44		0.10
Total Dissolved Solids	mg/L	33500		43600		49300		46400
Salinity	*	34.64		49.06	J	49.55	J	46.96
Tritium	pCi/L (1σ)	1018.2 (33.7)		2234.6 (71.0)		2275.7 (71.6)		2307.2 (89.4)
								2678.6 (91.9)
								3105.0 (106.0)
								2853.1 (90.3)

NOTES:

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

* PSS-78 salinity is unitless.

Sample 030315-Dup is a duplicate of TPGW-2M.

Sample 030515-Dup is a duplicate of TPGW-9D.

Sample 030915-Dup is a duplicate of TPGW-12M.

The results in blue represent data values that were not available at time of publication of the prior annual report.

KEY:

°C = Degrees Celsius.

µS/cm = MicroSiemen(s) per centimeter.

σ = sigma (Standard Deviation).

CaCO₃ = Calcium carbonate.

DUP = Duplicate.

FB = Field Blank.

I = Value between the MDL and PQL.

J = Estimated (+/- indicate bias).

mg/L = Milligram(s) per liter.

N = Nitrogen

NH₃ = Ammonia.

NH₄⁺ = Ammonium ion.

NTU = Nephelometric Turbidity Units(s).

pCi/L = PicoCuries per liter.

FPL Turkey Point Uprate Monitoring P
 March 2015 Semiannual Sampling Even
 SDG: Qtr 1 2015 GW

Parameter	Units	TPGW-3S		TPGW-3M		TPGW-3D		TPGW-4S		TPGW-4M		TPGW-4D		TPGW-5S		TPGW-5M		TPGW-5D	
		03/03/2015		03/03/2015		03/03/2015		03/02/2015		03/02/2015		03/02/2015		03/05/2015		03/05/2015		03/05/2015	
Temperature	°C	26.00		26.11		26.09		25.53		25.44		25.12		24.13		24.68		24.51	
pH	SU	6.64		6.90		6.90		6.89		6.91		6.95		7.26		6.83		6.85	
Dissolved Oxygen	mg/L	0.48		0.11		0.24		0.21		0.20		0.14		0.25		0.24		0.34	
Specific Conductance	µS/cm	60490	J	66945	J	68199	J	3360	J	39265	J	42350		961		32899	J	35041	J
Turbidity	NTU	0.63		0.16		0.16		0.37		0.66		0.53		0.50		0.19		0.19	
Silica, dissolved	mg/L																		
Calcium	mg/L	627	J	610	J	625	J	177	J	55	J	574		105		561	J	561	J
Magnesium	mg/L	1340	J	1500	J	1540	J	39.8	J	81.8	J	936		6.47		621	J	693	J
Potassium	mg/L	472	J	540	J	558	J	6.31	J	19.6	J	258		5.26		135	J	173	J
Sodium	mg/L	11000	J	12200	J	12900	J	411	J	723	J	8720		67		3930	J	4400	J
Boron	mg/L	4.85		5.49		5.68		0.1	U	0.14		2.07		0.05	I	0.95		1.31	
Strontium	mg/L	10.10		12.00		12.10		1.79		0.74		8.32		1.02		7.20		7.87	
Bromide	mg/L	79.0	J	91.5	J	93.0	J	3.1	J	56.1	J	52.2		0.6		41.3	J	44.5	J
Chloride	mg/L	23800	J	26800	J	27500	J	929	J	14400	J	15700		149		11600	J	12700	J
Fluoride	mg/L	0.210	J	0.170	J	0.210	J	0.100	J	0.130	J	0.150		0.120		0.120	J	0.140	J
Sulfate	mg/L	3000	J	3320	J	3440	J	47	J	1620	J	1820		15		1220	J	1400	J
Total Ammonia	mg/L as N																		
Ammonium ion (NH ₄ ⁺)	mg/L																		
Unionized NH ₃	mg/L																		
Nitrate/Nitrite	mg/L as N																		
TKN	mg/L																		
TN	mg/L																		
ortho-Phosphate	mg/L																		
Total Phosphorus (P)	mg/L																		
Alkalinity	mg/L	528	J	257	J	231	J	323		216	J	212		239		233	J	221	J
Bicarbonate Alkalinity	mg/L as HCO ₃	645	J	314	J	282	J	394		263	J	258		292		284	J	270	J
Sulfide	mg/L	8.52		0.15		0.08	I	0.12		0.04	U	0.04	I	0.72	I	0.07	I	0.05	I
Total Dissolved Solids	mg/L	38800		46500		48900		1840		25800		28200		520	Q	19800	Q	21100	Q
Salinity	*	40.55	J	45.51	J	46.49	J	1.76	J	25	J	27.19		0.47	J	20.57	J	22.05	J
Tritium	pCi/L (1σ)	189.2 (7.6)		1378.8 (46.7)		1603.9 (53.4)		20.5 (5.9)	J	311.6 (13.7)		426.8 (16.9)		-1.8 (5.2)	UJ	234.9 (11.0)		349.2 (14.5)	

Q = Holding time exceeded.
 SU = Standard Unit(s).
 TKN = Total Kjeldahl nitrogen.
 TN = Total nitrogen.
 TPGW = Turkey Point Groundwater.
 U = Analyzed for but not detected at the reported value.

FPL Turkey Point Uprate Monitoring P1
 March 2015 Semiannual Sampling Even
 SDG: Qtr 1 2015 GW

		TPGW-6S		TPGW-6M		TPGW-6D		TPGW-7S		TPGW-7M		TPGW-7D		TPGW-8S	
Parameter	Units	03/02/2015		03/02/2015		03/02/2015		03/02/2015		03/02/2015		03/02/2015		03/02/2015	
Temperature	°C	23.86		24.12		24.03		24.17		24.28		23.99		24.18	
pH	SU	7.07		6.92		6.89		7.24		7.29		6.86		11.41	
Dissolved Oxygen	mg/L	0.17		0.20		0.15		0.05		0.03		0.12		0.27	
Specific Conductance	µS/cm	1232		22633		23682		534		537		6166		880	J
Turbidity	NTU	0.47		0.30		0.37		1.09		0.33		0.43		0.46	
Silica, dissolved	mg/L														
Calcium	mg/L	132		528		558		84		85		427		90	
Magnesium	mg/L	12.7		461		499		4.27		4.24		25		1.2	
Potassium	mg/L	4.82		109		117		8.12		7.61		8.47		10.8	
Sodium	mg/L	108		3930		4230		20		21		766		18	
Boron	mg/L	0.06		0.85		0.92		0.05	I	0.05	I	0.06		0.06	
Strontium	mg/L	1.28		8.97		9.37		0.82		0.82		4.54		0.65	
Bromide	mg/L	0.8		33.6		35.9		0.1		0.2		6.7		0.2	
Chloride	mg/L	219		7950		8390		35		36		1960		33	
Fluoride	mg/L	0.120		0.130		0.150		0.130		0.130		0.024	U	0.024	U
Sulfate	mg/L	6		765		816		21		22		19		52	
Total Ammonia	mg/L as N														
Ammonium ion (NH ₄ ⁺)	mg/L														
Unionized NH ₃	mg/L														
Nitrate/Nitrite	mg/L as N														
TKN	mg/L														
TN	mg/L														
ortho-Phosphate	mg/L														
Total Phosphorus (P)	mg/L														
Alkalinity	mg/L	295		212		224		203		202		172		146	
Bicarbonate Alkalinity	mg/L as HCO ₃	360		259		274		248		246		209		1	U
Sulfide	mg/L	0.12		0.04	U	0.04	I	0.09	I	0.04	U	0.14		0.05	I
Total Dissolved Solids	mg/L	676		14100		15000		284		272		3740		276	J
Salinity	*	0.61	J	13.65		14.34		0.26	J	0.26	J	3.35		0.43	J
Tritium	pCi/L (1σ)	15.5 (5.5)	J	23.3 (5.7)	J	10.4 (5.3)	J	13.5 (5.5)	J	12.9 (5.5)	J	22.6 (5.7)	J	8.6 (5.5)	J

FPL Turkey Point Uprate Monitoring Program
 March 2015 Semiannual Sampling Event
 SDG: Qtr 1 2015 GW

Parameter	Units	TPGW-8M		TPGW-8D		TPGW-9S		TPGW-9M		TPGW-9D		030515-Dup		TPGW-10S		TPGW-10M		TPGW-10D	
		03/02/2015		03/02/2015		03/05/2015		03/05/2015		03/05/2015		03/05/2015		03/04/2015		03/04/2015		03/04/2015	
Temperature	°C	24.15		24.24		24.69		24.30		24.11				25.82		25.72		25.62	
pH	SU	7.07		7.08		6.87		6.91		6.91				7.27		7.25		7.00	
Dissolved Oxygen	mg/L	0.24		0.25		0.23		0.23		0.52				0.20		0.13		0.18	
Specific Conductance	µS/cm	646		668		604		603		622				53820		56077	J	69409	J
Turbidity	NTU	0.21		0.22		0.23		0.23		0.13				0.22		0.29		0.12	
Silica, dissolved	mg/L																		
Calcium	mg/L	111		102		110		105		107		110		424		450		586	
Magnesium	mg/L	4.24		5.85		2.45		2.81		3.25		3.39		1300		1360		1790	
Potassium	mg/L	12		9.4		4.89		5.16		3.67		3.94		400		421		554	
Sodium	mg/L	17		24		12		12		15		15		9740	J	10200	J	13300	J
Boron	mg/L	0.08		0.07		0.04	I	0.05	I	0.05	I	0.06		4.58	I	4.79	I	5.99	
Strontium	mg/L	1.12		1.05		0.83		0.90		1.12		1.14		7.98		8.66		11.10	
Bromide	mg/L	0.2		0.2		0.2		0.2		0.3		0.3		73.4		72.7	J	93.8	J
Chloride	mg/L	31		43		22		23		27		27		17100		21200	J	27200	J
Fluoride	mg/L	0.100		0.100		0.032	U	0.032	U	0.032	U	0.032	U	0.820		0.600	J	0.250	J
Sulfate	mg/L	65		56		5		8		27		27		2710		2800	J	3530	J
Total Ammonia	mg/L as N													0.594	J	0.423	J	1.170	J
Ammonium ion (NH ₄ ⁺)	mg/L													0.75	J	0.53	J	1.50	J
Unionized NH ₃	mg/L													0.009	J	0.006	J	0.009	J
Nitrate/Nitrite	mg/L as N													0.0269	I	0.0289	I	0.0302	I
TKN	mg/L													0.90		0.63		1.80	
TN	mg/L													0.92	J	0.66	J	1.83	
ortho-Phosphate	mg/L													0.0232		0.0194		0.0406	
Total Phosphorus (P)	mg/L													0.0322		0.0367		0.0447	
Alkalinity	mg/L	225		227		274		276		254		261		133		126	J	169	J
Bicarbonate Alkalinity	mg/L as HCO ₃	274		277		335		336		310		319		162		154	J	207	J
Sulfide	mg/L	0.07	I	0.18		0.62		0.30		0.09	I	0.10	I	4.70	Q	1.54	Q	5.90	Q
Total Dissolved Solids	mg/L	350		366		324	Q	322	Q	344	Q			32400		34700		44700	
Salinity	*	0.31	J	0.32	J	0.29	J	0.29	J	0.3	J			35.54		37.23	J	47.45	J
Tritium	pCi/L (1σ)	16.2 (5.9)	J	9.8 (5.5)	J	5.8 (5.3)		-0.2 (4.9)	UJ	-4.5 (4.8)	UJ	4.3 (5.5)	UJ	12.5 (5.2)	J	33.8 (5.8)	J	1598.0 (56.4)	

FPL Turkey Point Uprate Monitoring P
 March 2015 Semiannual Sampling Even
 SDG: Qtr 1 2015 GW

		TPGW-11S		TPGW-11M		TPGW-11D		TPGW-12S		TPGW-12M		030915-Dup		TPGW-12D		TPGW-13S		TPGW-13M	
Parameter	Units	03/04/2015		03/04/2015		03/04/2015		03/09/2015		03/09/2015		03/09/2015		03/09/2015		03/09/2015		03/09/2015	
Temperature	°C	25.31		25.30		25.37		26.74		26.81				26.78		29.99		29.44	
pH	SU	6.93		6.73		6.79		6.61		6.64				7.08		6.71		6.87	
Dissolved Oxygen	mg/L	0.21		0.33		0.17		0.26		0.08				0.10		0.19		0.09	
Specific Conductance	µS/cm	55149	J	57580	J	64255	J	45042		58029	J			64578	J	84447	J	78024	J
Turbidity	NTU	0.29		0.27		0.09		0.12		0.27				0.37		5.62		1.88	
Silica, dissolved	mg/L																		
Calcium	mg/L	488	J	534	J	596	J	503		595	J	582		612	J	788		717	
Magnesium	mg/L	1360	J	1420	J	1610	J	1010		1450	J	1330		1520	J	2200		2080	
Potassium	mg/L	427	J	430	J	493	J	356		471	J	475		537	J	750		655	
Sodium	mg/L	10400	J	10900	J	12300	J	8580	J	11200	J	11400		12600	J	17000		14700	
Boron	mg/L	5.06		4.95	I	5.34		3.54		5.19		4.65		5.10		8.50		7.58	
Strontium	mg/L	8.53		9.23		10.70		7.83		10.10		10.10		11.00		15.70		14.70	
Bromide	mg/L	72.1	J	75.5	J	85.9	J	56.9		77.4	J	78.1		130.0	J-	118.0	J	108.0	J
Chloride	mg/L	21000	J	22600	J	24900	J	16700		23100	J	22600		26000	J	35900	J	32700	J
Fluoride	mg/L	0.850	J	0.610	J	0.710	J	0.480	J	0.270	J	0.280		0.260	J-	0.460	J	0.190	J
Sulfate	mg/L	2800	J	2880	J	3220	J	2010		2850	J	2890		3240	J	4410	J	4060	J
Total Ammonia	mg/L as N															3.060		1.560	
Ammonium ion (NH ₄ ⁺)	mg/L															3.92		2.00	
Unionized NH ₃	mg/L															0.015		0.012	
Nitrate/Nitrite	mg/L as N															0.0280	I J	0.0276	I J
TKN	mg/L															4.98		3.00	
TN	mg/L															5.01	J	3.03	J
ortho-Phosphate	mg/L															0.0624	Q	0.0064	I J
Total Phosphorus (P)	mg/L															0.0636		0.0598	
Alkalinity	mg/L	273	J	333	J	265	J	528		333	J	332		196	J	295	J	203	J
Bicarbonate Alkalinity	mg/L as HCO ₃	333	J	406	J	324	J	644		406	J	406		239	J	360	J	248	J
Sulfide	mg/L	8.83	Q	7.72	Q	5.46	Q	5.10		8.31	J	5.23	J	1.35		39.10		0.45	I J
Total Dissolved Solids	mg/L	34100		35600		40600		26700		38600		41600		45400		58900		53000	
Salinity	*	36.54	J	38.37	J	43.46	J	29.09		38.67	J			43.66	J	59.36	J	54.16	J
Tritium	pCi/L (1σ)	6.9 (5.2)	J	180.7 (9.9)		876.9 (32.5)		90.8 (5.9)		955.5 (32.5)		959.4 (32.6)		1532.7 (50.2)		4738.0 (162.8)		3044.4 (106.4)	

FPL Turkey Point Uprate Monitoring Program
 March 2015 Semiannual Sampling Event
 SDG: Qtr 1 2015 GW

Parameter	Units	TPGW-13D		TPGW-14S		TPGW-14M		TPGW-14D		030215-EB		030315-FB		030415-FB		030515-FB1		030515-FB2		030915-FB1		030915-FB2	
		03/09/2015		03/04/2015		03/04/2015		03/04/2015		03/02/2015		03/03/2015		03/04/2015		03/05/2015		03/05/2015		03/09/2015		03/09/2015	
Temperature	°C	29.45		25.74		25.86		25.87															
pH	SU	6.82		6.99		6.78		6.79															
Dissolved Oxygen	mg/L	0.12		0.18		0.31		0.31															
Specific Conductance	µS/cm	79894	J	57239		61261		73310	J														
Turbidity	NTU	0.11		0.23		0.18		0.22															
Silica, dissolved	mg/L									0.05	U	0.05	U	0.05	U	0.050	U			0.0521	I		
Calcium	mg/L	733		501		557		640		0.100	U	0.100	U	0.100	U	0.100	U			0.1	U		
Magnesium	mg/L	2180		1430		1520		1880		0.0200	U	0.0200	U	0.0200	U	0.020	U			0.02	U		
Potassium	mg/L	696		449		472		596		0.190	U	0.190	U	0.190	U	0.190	U			0.19	U		
Sodium	mg/L	14700		10800		11700	J-	13800		0.310	U	0.310	U	0.310	U	0.310	U			0.31	U		
Boron	mg/L	8.56		5.44		5.22		7.42		0.01	U	0.01	U	0.01	U	0.010	U			0.01	U		
Strontium	mg/L	15.00		9.04		9.95		12.50		0.001	U	0.001	U	0.001	U	0.001	U			0.001	U		
Bromide	mg/L	110.0	J	75.9		81.4		102	J	0.0130	U	0.0130	U	0.0250	U	0.025	U			0.025	U		
Chloride	mg/L	32100	J	20800		23200		29500	J	0.200	U	0.200	U	0.200	U	0.200	U			0.200	U		
Fluoride	mg/L	0.220	J	0.560		0.450		0.41	J	0.0240	U	0.0320	U	0.0320	U	0.032	U			0.032	U		
Sulfate	mg/L	4120	J	2900		3080		3860	J	0.400	U	0.400	U	0.400	U	0.400	U			0.4	U		
Total Ammonia	mg/L as N	1.880		0.770	J	1.090	J+	1.99		0.1400	I	0.1570	I	0.1950	I	0.2400		0.1600	I	0.1	U	0.1	U
Ammonium ion (NH ₄ ⁺)	mg/L	2.41		0.98	J	1.39	J	2.55															
Unionized NH ₃	mg/L	0.011		0.006	J	0.005	J	0.009															
Nitrate/Nitrite	mg/L as N	0.0966	J	0.0250	U	0.0308	IJ	0.03	IJ	0.005	UQ	0.005	U	0.00551	I	0.00500	U			0.0105			
TKN	mg/L	3.74		0.93		1.50		3.00		0.228	I	0.200	U	0.200	U	0.20	U			0.1	U		
TN	mg/L	3.84	J	0.96	J	1.53	J	3.03	J														
ortho-Phosphate	mg/L	0.0705	J+	0.0479		0.0641		0.0588		0.0021	U	0.0021	U	0.0021	U	0.00210	U			0.0021	U		
Total Phosphorus (P)	mg/L	0.0635		0.0710		0.0682		0.0612		0.0030	U	0.0030	U	0.0030	U	0.00300	U			0.003	U		
Alkalinity	mg/L	215	J	232		289		233	J	1.00	U	1.00	U	1.00	U	1.00	U			1	U		
Bicarbonate Alkalinity	mg/L as HCO ₃	263	J	283		352		285	J	1.00	U	1.00	U	1.00	U	1.00	U			1	U		
Sulfide	mg/L	5.80		3.83	Q	6.01	Q	7.11	Q	0.04	U	0.04	U	0.05	IQ	0.04	U			0.0564	I		
Total Dissolved Solids	mg/L	56100		36500		39200		49700		5	U	5	U	5	U	5	U			5	U		
Salinity	*	55.67	J	38.1		41.14		50.52	J														
Tritium	pCi/L (1σ)	3816.1 (133.4)		110.1 (7.8)		361.3 (15.4)		2297.2 (80.1)		6.0 (5.3)		4.6 (2.6)		5.0 (2.6)		-3.6 (5.0)	UJ			-0.1 (3.6)	UJ		

FPL Turkey Point Uprate Monitoring Project
March 2015 Semiannual Sampling Event
SDG: Qtr 1 2015 GW

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 unit for use with data from monitoring stations. Interagency Ecological Program for the San Francisco Estuary Newsletter. 14(1):17-18.

*** Calculated cation and anion conductivities not reported in ADaPT so all cations/anions are qualified.

The results in blue represent data values that were not available at time of publication of the pr

Sample 030315-Dup is a duplicate of TPGW-2M.

Sample 030515-Dup is a duplicate of TPGW-9D.

Sample 030915-Dup is a duplicate of TPGW-12M.

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.

mg/L = Milligram(s) per liter.

N.A. = Not applicable.

NH₃ = Ammonia.

NH₄⁺ = 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.

TPGW = Turkey Point Ground Water

Qualifiers

I = Value between the MDL and PQL.

J = Estimated (+/- indicate bias).

Q = Holding time exceeded.

U = Analyzed for but not detected at the reported value.

FPL Turkey Point Uprate Monitoring Project
March 2015 Semiannual Sampling Event
SDG: Qtr 1 2015 GW

Summary of Table Modifications

Date of Original Document	Old Value	New Value	Reason	Date of Revision	Revision by
6/6/2015	Ca - 1990	177	TPGW-4S revised due to lab calculation error	8/19/2015	SE
	Mg - 384	39.8			
	K - 67.5	6.31			
	Na - 4100	411			
	B - 0.866	0.1 U			
	Sr - 19.1	1.79			
8/19/2015			added Tritium results	1/17/2016	JR