Attachment A
Ohio EPA 2012 Field Biological Survey
Draft Conclusions on Attainment
Newtonsville Area Results

Table 2. Attainment status of sites sampled during the 2012 East Fork Little Miami River survey. The aquatic life use is Warmwater Habitat unless otherwise noted.

STORET	RM	QHEI	IBI	MIWb	ICI	STATUS	CAUSES		SOURCES	
11-107-000 Stonelick Creek										
200492	20.0	57.3	38		F	Partial	322, 449	low do, organic enrichment, condition exacerbated by low flow	140, 156	
M04S42	17.7	64.0	30•		MG	Partial	322, 319, 449	low do, organic enrichment condition exacerbated by low flow	142	Stonelick Reservoir backwaters
301905 Rt. 727 near Pringle Rd	13.4	73.0	32•	5.6•	Fair	Non	322, 270, 449	low do, organic enrichment, Condition exacerbated by low flow	142	Stonelick Reservoir
M04S41 Rt. 131	9.8	69.0	34•	6.3•	G	Partial	322, 270, 449	low do, organic enrichment, condition exacerbated by low flow	142	Stonelick Reservoir
301906	6.2	66.8	37	7.9	46	Full				
M99Q14	5.2	67.3	44	8.4	VG	Full				
M04P09	1.0	66.5	42	8.9	E	Full	TIC	Threatened by nutrient enrichment, algae cover thick		
11-107-002 Trib. to Stonelick Creek (RM 10.61)										
301148 Cedarville Rd	0.9	61.8	34•		P	Non	449, 100007	organic enrichment, condition exacerbated by low flow	168	Newtonsville
11-108-000 Lick Fork										
200466	0.6	72.0	56		G	Full				

Table 2. Attainment status of sites sampled during the 2012 East Fork Little Miami River survey. The aquatic life use is Warmwater Habitat unless otherwise
noted.

STORET	RM	QHEI	IBI	MIWb	ICI	STATUS	CAUSES		SOURCES	
11-109-000 Brushy Fork										
301911	2.2	49.0	26•		G	Non	322, 100007	low do, condition exacerbated by low flow and bedrock habitat	155	
301912	0.3	55.8	46		E	Full				
11-111-000 Patterson Run										
301913	0.1	57.3	20•		G	Non	100007, 449	low flow, organic enrichment, Condition exacerbated by marginal habitat	99	Clermont NE Local Schools WWTP?
11-112-000 Moores Fork										
301909	2.9	63.0	38		F	Partial	322, 449, 100007	organic enrichment, low flow		
301910	0.7	66.5	38		HF	Partial	322, 449, 100007	organic enrichment, low flow		

Attachment B
Ohio EPA 2010 Field Biological Survey
Newtonsville Area Results

Newtonsville

The site at Cedarville Road (RM 0.9) appeared interstitial with a fish community representative of a headwater community during electrofishing sampling on 8/4/2010. The marginally good fish community received an IBI=36, which is within non-significant departure of WWH. A total of eleven species of fish were collected, though three species, creek chub (37.64%), central stoneroller minnow (27.99%) and green sunfish (14.86%) comprised 80% of the sample. In addition to the fish, numerous small salamanders were observed upstream of the bridge. Several of the salamanders were collected and identified as larval, southern two-lined salamanders, *E.cirrigera* (identification completed by Mick Micacchion, Ohio EPA). While the presence of two-lined salamanders is indicative of a PHWH stream, additional sampling would need to be completed to determine whether the stream is a Class II or Class III PHWH stream. Macroinvertebrate sampling was attempted on 9/15/2010, six weeks after the fish sampling. However, the only water present were small disconnected pools near the bridge.

The site at State Route 131 (RM 2.2) only had water adjacent to tile drains from the surrounding homes. A total of eleven fish, specifically, green sunfish (5), largemouth bass (2) and bluegill sunfish (4) were collected. Terrestrial vegetation was observed growing in the stream channel. The ephemeral nature of the stream is indicative of a PHWH stream. This site was also completely dry when visited by the macroinvertebrate crew on 9/15/2010. The lack of flow at this upstream location during both visits indicates that the stream is likely a PHWH candidate in this area. In conclusion, additional sampling would need to be completed to determine whether the WWH or a PHWH classification is most appropriate for this stream.

When checking the sites in late September, the macroinvertebrate crew noticed a septic odor possibly due to failing home sewage treatment system discharges as they crossed a bridge in Newtonsville (Figure 1). It is recommended that an investigation into the source(s) of these odors is completed.

Site	RM	Drainage (mi^2)	IBI[1]	QHEI	Comment
Unnamed tributary to Stonelick Creek at RM 10.61	0.9	2.0	36^{NS}	54	Interstitial with larval, two-lined salamanders present.
Unnamed tributary to Stonelick Creek at RM 10.61	2.2	0.7	12	45.5	Intermittent with only water present discharged from tiles in residential yards; likely from HSTS.

1 – WWH IBI biocriterion for headwater sites within the Interior Plateau ecoregion is 40.

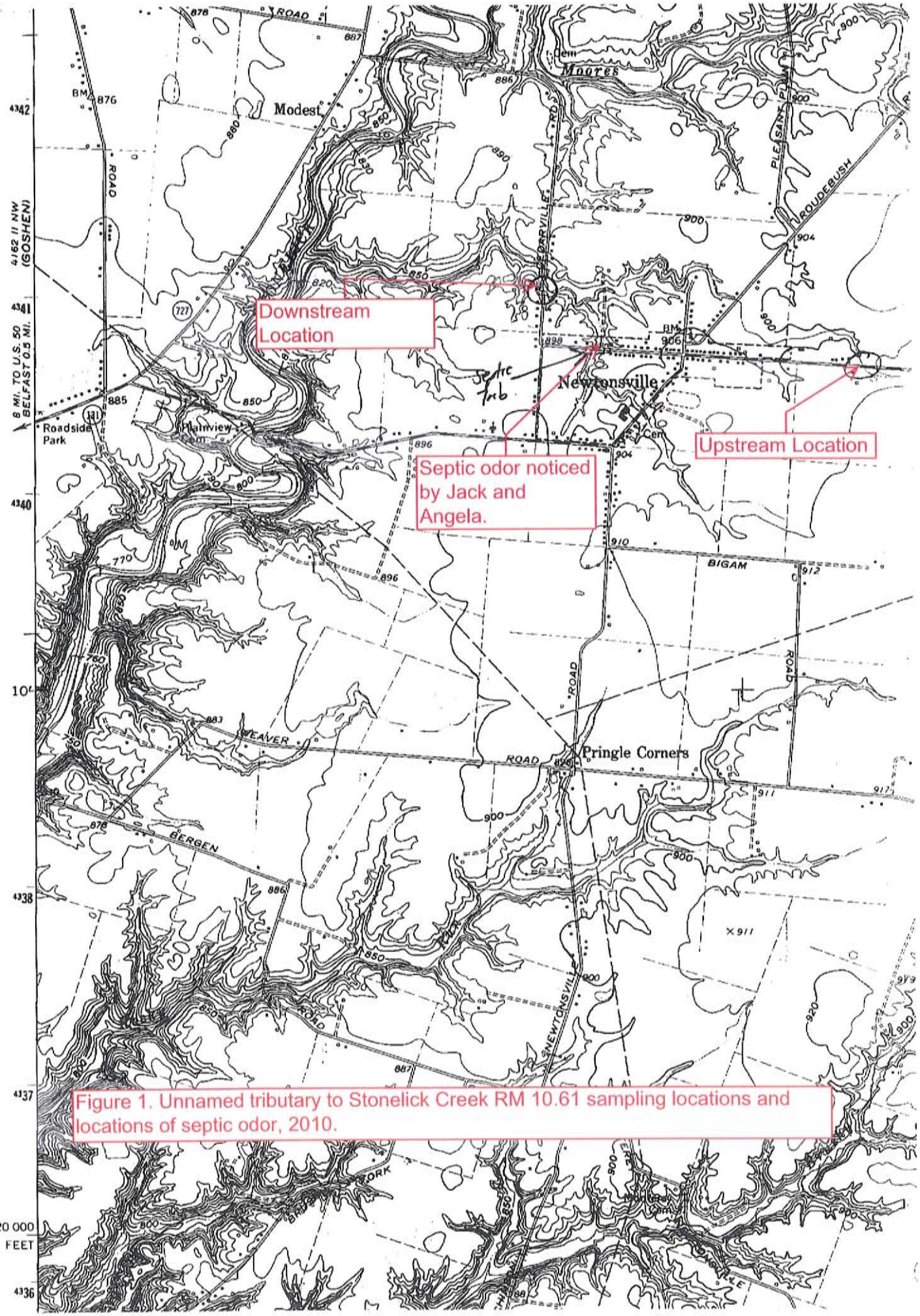

Figure 1. Unnamed tributary to Stonelick Creek RM 10.61 sampling locations and locations of septic odor, 2010.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Percent of Individuals: Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
Stonelick trib 10.61 - (11-163)																
Year: 2010																
2.20	E	08/04/2010	0.7	3(1)	0(1)	0(1)	0(1)	0(1)	0(1)	45(1)	0(1)	46(1)	82(1)	0.0(1)	12(1) * *	12
0.90	E	08/04/2010	2.0	11(5)	4(3)	1(1)	0(1)	3(5)	2(3)	64(1)	12(3)	59(1)	22(3)	0.0(5)	368(5)	36

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Species List

River Code: **11-163**	Stream: **Trib. to Stonelick Creek (RM 10.61)**	Sample Date: **2010**
River Mile: **2.20**	Location: St. Rt. 131	Date Range: 08/04/2010
Time Fished: 300 sec	Drainage: 0.7 sq mi	
Dist Fished: 0.15 km	Basin: Little Miami River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Largemouth Bass	F	C	C		2	4.00	18.18			
Green Sunfish	S	I	C	T	5	10.00	45.45			
Bluegill Sunfish	S	I	C	P	4	8.00	36.36			
	Mile Total				11	22.00				
	Number of Species				3					
	Number of Hybrids				0					

Species List

River Code: **11-163** River Mile: **0.90** Time Fished: 1338 sec Dist Fished: 0.15 km	Stream: **Trib. to Stonelick Creek (RM 10.61)** Location: Cedarville Rd. Drainage: 2.0 sq mi Basin: Little Miami River No of Passes: 1	Sample Date: **2010** Date Range: 08/04/2010 Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	57	114.00	11.00			
Creek Chub	N	G	N	T	195	390.00	37.64			
Fathead Minnow	N	O	C	T	1	2.00	0.19			
Bluntnose Minnow	N	O	C	T	4	8.00	0.77			
Central Stoneroller	N	H	N		145	290.00	27.99			
Largemouth Bass	F	C	C		3	6.00	0.58			
Green Sunfish	S	I	C	T	77	154.00	14.86			
Bluegill Sunfish	S	I	C	P	4	8.00	0.77			
Hybrid X Sunfish					1	2.00	0.19			
Johnny Darter	D	I	C		23	46.00	4.44			
Orangethroat Darter	D	I	S		6	12.00	1.16			
Fantail Darter	D	I	C		2	4.00	0.39			
	Mile Total				518	1,036.00				
	Number of Species				11					
	Number of Hybrids				1					

Key QHEI Components

River Mile	QHEI	Gradient (ft/mile)	WWH Attributes: No Channelization or Recovered	Boulder/Cobble/Gravel Substrates	Silt Free Substrates	Good/Excellent Substrates	Moderate/High Sinuosity	Extensive/Moderate Cover	Fast Current/Eddies	Low-Normal Overall Embeddedness	Max Depth > 40 cm	Low-Normal Riffle Embeddedness	Total WWH Attributes	MWH Attributes – High Influence: Channelized or No Recovery	Silt/Muck Substrates	No Sinuosity	Sparse/No Cover	Max Depth < 40 cm (MD, HW)	Total H.I. MWH Attributes	MWH Attributes – Moderate Influence: Recovering Channel	Heavy/Moderate Silt Cover	Sand Substrates (Boat)	Handpan Substrate Origin	Fair/Poor Development	Low Sinuosity	Only 1-2 Cover Types	Intermittent and Poor Pools	No Fast Current	High/Mod. Overall Embeddedness	High/Mod. Riffle Embeddedness	No Riffle	Total M.I. MWH Attributes	(MWH H.I.+1)/(WWH+1) Ratio	(MWH H.I.+1)/(WWH+1) Ratio
(11-163) Trib. to Stonelick Creek (RM 10.61)																																		
Year: 2010																																		
2.2	45.5	17.86	■	■			■			■			4				◆	◆	2				●		●	●	●			●	5	0.60	1.60
0.9	54.0	35.04	■	■				■					3				◆	◆	2		●		●					●	●	●	5	0.75	2.00

Attachment C
Newtonsville Area Sampling Results
Complete Data Record

Newtonsville Stream Sampling Data 1997-2013

Sample Site	Date	NH4-N mg/L	cBOD5 mg/L	Chlorides mg/L	Conductivity µmho/cm	Diss Oxygen mg/L	E. Coli #/100 mL	F. Coli #/100 mL	Hardness, Tot mg/L as CaCO3	NO3-N mg/L	TKN mg/L	pH S.U.	Diss Ortho-P mg/L	Total P mg/L	TSS mg/L	Water Temp DegC
NEWTN0.9	01-Jul-97	0.00	0.0		509	5.80		8	236	0.64	0.00	7.80	0.22	0.28	6.50	21.30
NEWTN0.9	08-Jul-97	0.00	0.0		123	7.50		120		0.20	0.73	8.00	0.04	0.15	19.60	19.30
NEWTN0.9	15-Jul-97	0.00	0.0		1,210	5.40		23	456	0.16	0.73	7.70	0.02	0.08	7.40	22.40
NEWTN0.9	22-Jul-97	0.00	2.8		1,168	4.10		77		0.19	0.78	7.70	0.02	0.07	6.70	22.80
NEWTN0.9	30-Jul-97	0.00	0.0		865	6.80		1,200		0.13	0.73	7.80	0.07	0.17	6.60	17.30
NEWTN0.9	05-Aug-97	0.00	2.2		1,270	6.20		1,100	528	0.08	0.73	7.90	0.02	0.15	21.40	20.10
NEWTN0.9	12-Aug-97	0.00	2.6		1,160	4.50		85		0.20	0.73	7.70	0.02	0.07	11.60	21.70
NEWTN0.9	19-Aug-97	0.00	0.0		611	7.10		540	279	1.55	1.51	8.00	0.16	0.34	23.20	20.50
NEWTN0.9	26-Aug-97	0.00	0.0		1,020	7.60		100		0.33	0.90	8.00	0.08	0.16	11.60	18.90
NEWTN0.9	14-Jul-98	0.12	2.4	38.0	550	7.10	160				0.95	8.00	0.04	0.19	31.50	21.40
NEWTN0.9	28-Jul-98	0.00	0.0	26.0	579	7.40	82				0.28	7.90	0.14	0.16	2.70	20.20
NEWTN0.9	04-Aug-98	0.00	0.0	32.0	580	5.00	85				0.39	7.60	0.15	0.17	3.60	19.80
NEWTN0.9	18-Aug-98	0.00	0.0	73.0	840	4.60					0.48	7.80	0.03	0.06	6.90	22.90
NEWTN0.9	13-Jul-99	0.00	0.0	92.0	997	2.80	180			0.13	0.64	7.70	0.18	0.24	10.30	18.30
NEWTN0.9	10-Aug-99	0.00	0.0	105.0	1,290	5.20	520			0.35	0.90	7.80	0.10	0.15	10.70	18.60
NEWTN0.9	05-Jul-00	0.21	2.7	20.8	417	7.09	5,900			0.82	1.76		0.33	0.54	42.20	22.50
NEWTN0.9	19-Jul-00	0.42	4.3	22.3	445	7.41	6,000			0.81	1.79	7.70	0.34	0.57	46.40	21.10
NEWTN0.9	02-Aug-00	0.00	0.0	35.6	682	2.30	71			0.20	0.78	7.40		0.34	4.10	20.60
NEWTN0.9	16-Aug-00	0.00	0.0	49.5	836	5.40	200			0.25	0.64	7.60	0.17	0.20	2.60	21.40
NEWTN0.9	30-Aug-00	0.00	0.0	37.1	721	5.10	130,000			0.36	0.67	7.50	0.24	0.28	3.30	20.30
NEWTN0.9	11-Jul-01	0.14	0.0		1,050	5.10	500			0.35	0.84	7.80	0.19	0.23	34.20	22.00
NEWTN0.9	23-Jul-01	0.00	0.0		846	5.80	180			0.56	0.64	7.60		0.36	20.70	24.00
NEWTN0.9	15-Aug-01	0.10	0.0		738	4.60	370			0.47	0.84	7.50	0.29	0.44	5.90	18.80
NEWTN0.9	27-Aug-01	0.00	2.1		469	7.70	640		162	0.71	1.06	7.90		0.29	13.40	21.00
NEWTN0.9	07-Aug-06						500			1.21			0.10	0.18	17.10	
NEWTN0.9	24-Jul-07						24,477						0.14	0.33	337.00	
NEWTN0.9	14-Aug-07						85						0.31	0.32	11.70	
NEWTN0.9	26-Aug-13	0.00			968	6.59	440					7.41		0.10		19.76
NEWTN0.9	27-Aug-13	0.00			953	5.74	76					7.51		0.11		20.84
NEWTN0.9	28-Aug-13	0.00			994	4.82	46					7.40		0.14		22.13
NEWTN1.9	07-Aug-06						38			1.11			1.80	2.23	6.50	
NEWTN1.9	24-Jul-07						10			0.22			0.59	1.15	14.00	
NEWTN1.9	14-Aug-07						131			0.10			0.36	0.74	20.00	
NEWTN1.9	26-Aug-13	1.72			677	6.12	21					7.16		1.40		23.88
NEWTN1.9	27-Aug-13	3.33			672	1.94	13					7.15		1.66		22.60
NEWTN1.9	28-Aug-13	2.92			661	2.14	10					7.18		1.62		23.36

Newtonsville Stream Sampling Data 1997-2013

Sample Site	Date	NH4-N mg/L	cBOD5 mg/L	Chlorides mg/L	Conductivity µmho/cm	Diss Oxygen mg/L	E. Coli #/100 mL	F. Coli #/100 mL	Hardness, Tot mg/L as CaCO3	NO3-N mg/L	TKN mg/L	pH S.U.	Diss Ortho-P mg/L	Total P mg/L	TSS mg/L	Water Temp DegC
NEWTN2.5	07-Aug-06						300			1.13			0.46	0.73	59.70	
NEWTN2.5	24-Jul-07						66			0.00			0.22	1.54	42.70	
NEWTN2.5	26-Aug-13	0.00			1,114	13.73	17					7.65		0.32		26.77
NEWTN2.5	27-Aug-13	0.00			1,069	4.96	12					7.57		0.16		22.41
NEWTN2.5	28-Aug-13	0.00			1,154	3.00	141					7.41		0.29		23.20
NWTSWO01	07-Aug-06						15			1.30			0.03	0.04	1.50	
NWTSWO01	24-Jul-07						54,620			0.04			0.04	1.01	739.00	
NWTSWO01	14-Aug-07						20			0.62			0.19	0.01	4.00	
NWTSWO01	26-Aug-13	0.00			1,133	8.02	91					7.76		0.18		19.76
NWTSWO01	27-Aug-13	0.00			1,240	7.15	72					7.78		0.08		20.16
NWTSWO01	28-Aug-13	0.00			1,231	7.68	21					7.75		0.21		20.83
NWTSWO02	07-Aug-06						14,000			1.09			1.36	2.71	65.00	
NWTSWO02	24-Jul-07						1,354			0.23			0.23	0.34	23.00	
NWTSWO02	26-Aug-13	0.14			1,093	2.32	48					7.16		0.41		19.91
NWTSWO02	27-Aug-13	0.46			1,178	1.76	260					7.23		0.34		20.78
NWTSWO02	28-Aug-13	0.36			1,182	2.90	69					7.26		0.35		22.44
NWTSWO03	07-Aug-06						27,000			1.75			3.52	5.26	78.00	
NWTSWO03	24-Jul-07						241,960			0.00			4.50	7.72	66.00	
NWTSWO03	14-Aug-07						12,033			0.20			3.27	4.34	18.00	
NWTSWO03	26-Aug-13	19.00			1,369	2.23	378					7.23		2.12		21.84
NWTSWO03	27-Aug-13	10.60			718	2.74	4,350					7.38		3.24		23.00
NWTSWO03	28-Aug-13	29.60			1,217	2.21	38,730					7.32		3.51		23.32
NWTUT0.2	07-Aug-06						2,400			0.54			0.41	1.11	52.80	
NWTUT0.2	24-Jul-07						141,360			2.33			1.49	2.42	34.00	
NWTUT0.2	14-Aug-07						3,873			0.10			2.72	1.59	9.67	
NWTUT0.2	26-Aug-13	7.18			1,144	2.02	16,700					7.36		1.54		20.70
NWTUT0.2	27-Aug-13	15.00			1,110	1.93	613,100					7.42		2.90		21.24
NWTUT0.2	28-Aug-13	12.60			1,075	0.94	41,060					7.37		2.36		22.18
NWTUTE.3	07-Aug-06						23			0.62			0.02	0.19	53.20	
NWTUTE.3	24-Jul-07						1			0.00			0.01	0.04	10.80	
NWTUTE.3	14-Aug-07						20			0.10			0.15	0.14	23.20	
NWTUTE.3	26-Aug-13	0.00			1,081	3.13	1,207					7.21		0.34		21.02
NWTUTE.3	27-Aug-13	0.25			1,023	3.04	748					7.26		0.21		21.15
NWTUTE.3	28-Aug-13	0.33			1,021	1.84	893					7.25		0.41		22.01
NWTUTW.2	07-Aug-06						300			0.79			0.38	0.60	72.00	
NWTUTW.2	24-Jul-07						957			0.53			0.15	0.45	145.00	
NWTUTW.2	14-Aug-07						3,873			0.10			2.72	1.59	9.67	
NWTUTW.2	26-Aug-13	0.00			1,895	4.31	649					7.46		0.21		20.98
NWTUTW.2	27-Aug-13	0.14			1,278	3.84	399					7.49		0.88		20.73
NWTUTW.2	28-Aug-13	0.13			1,978	4.02	715					7.52		0.80		21.85