

NUVEEN MASSACHUSETTS PREMIUM INCOME MUNICIPAL FUND
Form N-Q
April 29, 2013

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT
COMPANY

Investment Company Act file number 811-7484

Nuveen Massachusetts Premium Income Municipal Fund
(Exact name of registrant as specified in charter)

Nuveen Investments
333 West Wacker Drive, Chicago, Illinois 60606
(Address of principal executive offices) (Zip code)

Kevin J. McCarthy
Vice President and Secretary
333 West Wacker Drive, Chicago, Illinois 60606
(Name and address of agent for service)

Registrant's telephone number, including area code: 312-917-7700

Date of fiscal year end: 5/31

Date of reporting period: 2/28/13

Form N-Q is to be used by management investment companies, other than small business investment companies registered on Form N-5 (§§ 239.24 and 274.5 of this chapter), to file reports with the Commission, not later than 60 days after the close of the first and third fiscal quarters, pursuant to rule 30b1-5 under the Investment Company Act of 1940 (17 CFR 270.30b1-5). The Commission may use the information provided on Form N-Q in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-Q, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-Q unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. § 3507.

Item 1. Schedule of Investments

Portfolio of Investments (Unaudited)

Nuveen Massachusetts Premium Income
Municipal Fund (NMT)
February 28, 2013

Principal Amount (000)	Description (1)	Optional Call Provisions (2)	Ratings (3)	Value
\$ 1,425	Consumer Discretionary – 1.5% (1.0% of Total Investments) Boston Industrial Development Financing Authority, Massachusetts, Senior Revenue Bonds, Crosstown Center Project, Series 2002, 6.500%, 9/01/35 (Alternative Minimum Tax) Education and Civic Organizations – 32.6% (22.0% of Total Investments)	9/13 at 101.00	Caa3	\$ 1,124,966
1,000	Massachusetts Development Finance Agency Revenue Bonds, Lesley University Issue Series B-1 and B-2, 5.250%, 7/01/33 – AGM Insured	7/21 at 100.00	AA–	1,150,190
375	Massachusetts Development Finance Agency, Revenue Bonds, Boston University, Series 2009V-1, 5.000%, 10/01/29	10/19 at 100.00	A1	423,491
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Emerson College, Series 2010A, 5.000%, 1/01/40	1/20 at 100.00	BBB+	1,071,960
455	Massachusetts Development Finance Agency, Revenue Bonds, Merrimack College, Series 2012A, 5.250%, 7/01/42	7/22 at 100.00	BBB–	505,127
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Sterling and Francine Clark Art Institute, Series 2011A, 5.000%, 7/01/41	7/21 at 100.00	AA	1,132,000
2,000	Massachusetts Development Finance Agency, Revenue Bonds, The Broad Institute, Series 2011A, 5.250%, 4/01/37	4/21 at 100.00	AA–	2,272,640
1,045	Massachusetts Development Finance Agency, Revenue Bonds, Worcester Polytechnic Institute,	9/17 at 100.00	A+	1,134,671

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700	Series 2007, 5.000%, 9/01/37 – NPMG Insured Massachusetts Development Finance Agency, Revenue Bonds, Worcester Polytechnic Institute,	9/22 at 100.00	A+	779,212
635	Series 2012, 5.000%, 9/01/50 Massachusetts Development Finance Authority, Revenue Bonds, Curry College, Series 2000A, 6.000%, 3/01/20 – ACA Insured Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation,	9/13 at 100.00	BBB	636,797
1,500	Series 2002A, 5.750%, 1/01/42 – AMBAC Insured Massachusetts Development Finance Authority, Revenue Bonds, WGBH Educational Foundation,	No Opt. Call	A	2,008,125
4,850	Series 2008A, 5.000%, 1/01/42 – AGC Insured Massachusetts Development Finance Authority, Revenue Refunding Bonds, Boston University,	1/18 at 100.00	AA–	5,165,638
1,090	Series 1999P, 6.000%, 5/15/29 Massachusetts Educational Financing Authority, Educational Loan Revenue, Series 2011J, 5.625%, 7/01/33 (Alternative Minimum Tax) Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Boston College,	No Opt. Call	A1	1,414,635
1,000	Series 2003N, 5.250%, 6/01/18 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Springfield College,	7/21 at 100.00	AA	1,086,510
2,000	Series 2010, 5.500%, 10/15/31 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Tufts University,	6/13 at 100.00	AA–	2,025,620
1,000	Series 2008O, 5.375%, 8/15/38 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Wellesley College,	10/19 at 100.00	Baa1	1,100,920
345	Series 2003H, 5.000%, 7/01/26 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Wheaton College	8/18 at 100.00	Aa2	407,624
500	Issues, Series 2010F, 5.000%, 1/01/41 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Williams College,	7/13 at 100.00	AA+	506,785
525	Series 2003H, 5.000%, 7/01/21	1/20 at 100.00	A2	581,102
555		7/13 at 100.00	AA+	563,930
210		No Opt. Call	BBB	208,278

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	Puerto Rico Industrial, Tourist, Educational, Medical and Environmental Control Facilities Fin Authority, Higher Ed Rev and Rev Refunding Bonds, University of the Sacred Heart Project, Series 2012, 4.375%, 10/01/31				
21,785	Total Education and Civic Organizations Health Care – 27.3% (18.3% of Total Investments)				24,175,255
	Massachusetts Development Finance Agency, Revenue Bonds, Berkshire Health Systems, Series 2012G:				
895	5.000%, 10/01/29	10/21 at 100.00	A3		1,007,636
700	5.000%, 10/01/31	10/21 at 100.00	A3		785,316
1,000	Massachusetts Development Finance Agency, Revenue Bonds, Partners HealthCare System, Series 2011K-6, 5.375%, 7/01/41	7/20 at 100.00	AA		1,136,710
300	Massachusetts Development Finance Agency, Revenue Bonds, Southcoast Health System Obligated	7/23 at 100.00	A		338,334
1,000	Group Issue, Series 2013F, 5.000%, 7/01/37 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Cape Cod Health Care Inc., Series 2001C, 5.250%, 11/15/31 – RAAI Insured	5/13 at 100.50	BBB+		1,005,900
2,300	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caregroup Inc., Series B1 Capital Asset Program Converted June 13,2008:				
	5.375%, 2/01/26 – NPMG Insured	8/18 at 100.00	A–		2,629,843
770	5.375%, 2/01/28 – NPMG Insured	8/18 at 100.00	A–		875,197
1,500	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Caregroup Inc., Series B2, Capital Asset Program, Converted June 9, 2009, 5.375%, 2/01/27 – NPMG Insured	8/18 at 100.00	A–		1,708,500
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Children’s Hospital, Series 2009M, 5.500%, 12/01/39	12/19 at 100.00	AA		1,139,710
935	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Emerson Hospital, Series 2005E, 5.000%, 8/15/35 – RAAI Insured	8/15 at 100.00	N/R		936,057
1,000	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey	8/15 at 100.00	A+		1,091,520

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	Clinic Medical Center, Series 2005C, 5.000%, 8/15/21 – FGIC Insured Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Lahey Medical	8/17 at 100.00	A+	2,178,380
2,000	Center, Series 2007D, 5.250%, 8/15/28 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milford Regional	7/17 at 100.00	BBB–	595,436
585	Medical Center, Series 2007E, 5.000%, 7/15/32 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Milton Hospital	7/15 at 100.00	BB–	1,034,870
1,000	Project, Series 2005D, 5.250%, 7/01/30 Massachusetts Health and Educational Facilities Authority, Revenue Bonds, UMass Memorial	7/15 at 100.00	A–	1,510,993
1,445	Health Care, Series 2005D, 5.000%, 7/01/33 Massachusetts State, Health and Educational Facilities Authority, Partners HealthCare System	7/17 at 100.00	AA	2,206,860
2,000	Inc., Series 2007G, 5.000%, 7/01/32 Total Health Care Housing/Multifamily – 3.9% (2.6% of Total Investments)			20,181,262
18,430	Massachusetts Development Finance Authority, Multifamily Housing Revenue Bonds, Emerson Manor	7/17 at 100.00	BB	1,346,218
1,290	Project, Series 2007, 4.800%, 7/20/48 Massachusetts Housing Finance Agency, Housing Revenue Bonds, Series 2003S, 5.050%, 12/01/23	6/13 at 100.00	AA–	501,810
500	(Alternative Minimum Tax) Somerville Housing Authority, Massachusetts, GNMA Collateralized Mortgage Revenue Bonds,	5/13 at 102.00	N/R	1,032,230
1,000	Clarendon Hill Towers, Series 2002, 5.200%, 11/20/22 Total Housing/Multifamily Housing/Single Family – 3.8% (2.6% of Total Investments)			2,880,258
2,790	Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2006-126, 4.625%, 6/01/32 (Alternative Minimum Tax)	6/16 at 100.00	AA	1,544,700
1,500	Massachusetts Housing Finance Agency, Single Family Housing Revenue Bonds, Series 2008, Trust	No Opt. Call	AA	1,280,589
985	3145, 14.517%, 6/01/16 (IF)			

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2,485	Total Housing/Single Family Industrials – 0.8% (0.5% of Total Investments) Massachusetts Development Finance Agency, Pioneer Valley Resource Recovery Revenue Bonds,			2,825,289
170	Eco/Springfield LLC, Series 2006, 5.875%, 7/01/14 (Alternative Minimum Tax) Massachusetts Development Finance Agency, Solid Waste Disposal Revenue Bonds, Waste Management	No Opt. Call	N/R	169,293
400	Inc., Series 2003, 5.450%, 6/01/14	No Opt. Call	BBB	422,844
570	Total Industrials Long-Term Care – 4.9% (3.3% of Total Investments)			592,137
1,270	Boston, Massachusetts, FHA-Insured Mortgage Revenue Bonds, Deutsches Altenheim Inc., Series 1998A, 6.125%, 10/01/31	4/13 at 101.00	AAA	1,285,837
185	Massachusetts Development Finance Agency, Revenue Bonds, Carleton-Willard Village, Series 2010, 5.625%, 12/01/30	12/19 at 100.00	A–	205,468
1,685	Massachusetts Development Finance Agency, Revenue Bonds, Orchard Cove, Series 2007, 5.250%, 10/01/26	4/13 at 102.00	N/R	1,717,234
400	Massachusetts Industrial Finance Agency, First Mortgage Revenue Bonds, Berkshire Retirement Community, Series 1994B, 4.750%, 7/01/17	5/13 at 100.00	BBB	400,592
3,540	Total Long-Term Care Tax Obligation/General – 16.9% (11.3% of Total Investments)			3,609,131
500	Ashland, Massachusetts, General Obligation Bonds, Series 2004, 5.250%, 5/15/23 – AMBAC Insured	5/15 at 100.00	Aa2	552,090
300	Boston, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 1/01/17	1/15 at 100.00	Aaa	325,905
125	Fall River, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 2/01/21 – AGM Insured	2/14 at 100.00	AA–	126,750
1,000	Hampden-Wilbraham Regional School District, Hampden County, Massachusetts, General Obligation Bonds, Series 2011, 5.000%, 2/15/41	2/21 at 100.00	Aa3	1,120,050
1,250	Hudson, Massachusetts, General Obligation Bonds, Municipal Purpose Loan Series 2011, 5.000%, 2/15/32	2/20 at 100.00	AA	1,424,163
1,010	Massachusetts Bay Transportation Authority, General Obligation Transportation System Bonds, Series 1991A, 7.000%, 3/01/21	No Opt. Call	AA+	1,328,392

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1,275	Massachusetts, General Obligation Bonds, Consolidated Loan, Series 2001D, 6.000%, 11/01/13 – NPFG Insured	No Opt. Call	AA+	1,325,783
1,260	Norwell, Massachusetts, General Obligation Bonds, Series 2003, 5.000%, 11/15/20 – FGIC Insured	No Opt. Call	AAA	1,585,723
1,000	Puerto Rico, General Obligation and Public Improvement Bonds, Series 2002A, 5.500%, 7/01/29 – FGIC Insured	No Opt. Call	Baa3	1,053,590
2,000	Quincy, Massachusetts, General Obligation Bonds, Series 2011, 5.250%, 12/01/38	12/20 at 100.00	Aa2	2,299,620
1,220	Worcester, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 7/01/19 – FGIC Insured	7/15 at 100.00	Aa3	1,341,915
10,940	Total Tax Obligation/General Tax Obligation/Limited – 17.9% (12.1% of Total Investments)			12,483,981
210	Martha’s Vineyard Land Bank, Massachusetts, Revenue Bonds, Series 2004, 5.000%, 5/01/26 –5/14 at 100.00 AMBAC Insured		A–	219,555
975	Massachusetts Bay Transportation Authority, Sales Tax Revenue Bonds, Senior Lien Series 2006C, 5.000%, 7/01/26	7/18 at 100.00	AAA	1,154,371
385	Massachusetts Bay Transportation Authority, Senior Lien Sales Tax Revenue Refunding Bonds, Series 2004C, 5.250%, 7/01/21	No Opt. Call	AAA	495,187
1,200	Massachusetts College Building Authority, Project Revenue Bonds, Series 2008A, 5.000%, 5/01/33 – AGC Insured	5/18 at 100.00	AA	1,370,340
1,000	Massachusetts College Building Authority, Project Revenue Refunding Bonds, Series 2003B, 5.375%, 5/01/23 – SYNCORA GTY Insured	No Opt. Call	Aa2	1,276,370
570	Massachusetts College Building Authority, Revenue Bonds, Refunding Series 2012B, 5.000%, 5/01/37	5/22 at 100.00	AA	660,077
1,000	Massachusetts School Building Authority, Dedicated Sales Tax Revenue Bonds, Series 2011B, 5.000%, 10/15/41	10/21 at 100.00	AA+	1,149,000
540	Massachusetts State, Special Obligation Dedicated Tax Revenue Bonds, Series 2005, 5.000%, 1/01/20 – FGIC Insured	No Opt. Call	A1	642,141
240	Puerto Rico Infrastructure Financing Authority, Special Tax Revenue Bonds, Series	No Opt. Call	BBB+	35,177

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1,000	2005A, 0.000%, 7/01/43 – AMBAC Insured Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue Bonds, First Subordinate Series	8/19 at 100.00	A+	1,104,850
1,650	2009A, 6.000%, 8/01/42 Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue Bonds, First Subordinate Series	No Opt. Call	A+	376,679
3,000	2010C, 0.000%, 8/01/38 Puerto Rico Sales Tax Financing Corporation, Sales Tax Revenue Bonds, First Subordinate Series	8/21 at 100.00	A+	3,126,540
235	2011A-1, 5.000%, 8/01/43 Puerto Rico, Highway Revenue Bonds, Highway and Transportation Authority, Series 2003AA,	No Opt. Call	BBB+	257,452
1,300	5.500%, 7/01/19 – NPMF Insured Virgin Islands Public Finance Authority, Gross Receipts Taxes Loan Note, Refunding Series	No Opt. Call	BBB+	1,424,917
13,305	2012A, 5.000%, 10/01/32 Total Tax Obligation/Limited Transportation – 8.9% (6.0% of Total Investments)			13,292,656
500	Massachusetts Port Authority, Airport System Revenue Bonds, Series 2010A, 5.000%, 7/01/30	7/20 at 100.00	AA	596,365
350	Massachusetts Port Authority, Revenue Bonds, Series 2012A, 5.000%, 7/01/42 (Alternative Minimum Tax)	7/22 at 100.00	AA	389,592
1,000	Massachusetts Port Authority, Special Facilities Revenue Bonds, BOSFUEL Corporation, Series	7/17 at 100.00	A2	1,086,800
725	2007, 5.000%, 7/01/32 – FGIC Insured (Alternative Minimum Tax) Massachusetts Port Authority, Special Facilities Revenue Bonds, Delta Air Lines Inc., Series	7/13 at 100.00	N/R	724,949
3,285	2001A, 5.000%, 1/01/27 – AMBAC Insured (Alternative Minimum Tax) Massachusetts Port Authority, Special Facilities Revenue Bonds, US Airways Group Inc., Series	9/13 at 100.00	Baa2	3,293,672
470	1996A, 5.750%, 9/01/16 – NPMF Insured (Alternative Minimum Tax) Metropolitan Boston Transit Parking Corporation, Massachusetts, Systemwide Senior Lien Parking	7/21 at 100.00	A+	526,193
6,330	Revenue Bonds, Series 2011, 5.000%, 7/01/41 Total Transportation			6,617,571

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	U.S. Guaranteed – 22.6% (15.2% of Total Investments) (4)			
2,000	Boston Water and Sewerage Commission, Massachusetts, General Revenue Bonds, Senior Series 2004A, 5.000%, 11/01/25 (Pre-refunded 11/01/14)	11/14 at 100.00	AA+ (4)	2,161,680
650	Boston, Massachusetts, General Obligation Bonds, Series 2005A, 5.000%, 1/01/17 (Pre-refunded 1/01/15)	1/15 at 100.00	N/R (4)	707,259
1,115	Massachusetts Bay Transportation Authority, General Obligation Transportation System Bonds, Series 1991A, 7.000%, 3/01/21 (Pre-refunded 3/01/17)	3/17 at 100.00	N/R (4)	1,258,434
25	Massachusetts Bay Transportation Authority, Sales Tax Revenue Bonds, Senior Lien Series 2006C, 5.000%, 7/01/26 (Pre-refunded 7/01/18)	7/18 at 100.00	AAA	30,436
550	Massachusetts College Building Authority, Project Revenue Bonds, Series 2004A, 5.000%, 5/01/19 (Pre-refunded 5/01/14) – NPMFG Insured	5/14 at 100.00	Aa2 (4)	580,685
325	Massachusetts College Building Authority, Project Revenue Bonds, Series 2006A, 5.000%, 5/01/31 (Pre-refunded 5/01/16) – AMBAC Insured	5/16 at 100.00	Aa2 (4)	370,588
1,000	Massachusetts Development Finance Authority, Revenue Bonds, Massachusetts College of Pharmacy and Allied Health Sciences, Series 2003C, 5.750%, 7/01/33 (Pre-refunded 7/01/13)	7/13 at 101.00	A (4)	1,029,030
1,745	Massachusetts Development Finance Authority, Revenue Bonds, Massachusetts College of Pharmacy and Allied Health Sciences, Series 2005D, 5.000%, 7/01/27 (Pre-refunded 7/01/15) – AGC Insured	7/15 at 100.00	AA– (4)	1,934,716
750	Massachusetts Development Finance Authority, Revenue Bonds, Milton Academy, Series 2003A, 5.000%, 9/01/19 (Pre-refunded 9/01/13)	9/13 at 100.00	AA– (4)	768,158
410	Massachusetts Health and Educational Facilities Authority, Revenue Bonds, CareGroup Inc., Series 1998A, 5.000%, 7/01/25 (Pre-refunded 7/01/21) – NPMFG Insured	7/21 at 100.00	BBB (4)	499,310
155	Massachusetts Port Authority, Revenue Bonds, Series 1982, 13.000%, 7/01/13 (ETM)	5/13 at 100.00	AAA	161,161
2,000	Massachusetts Port Authority, Revenue Bonds, Series 2003A, 5.000%, 7/01/33	7/13 at 100.00	AA (4)	2,032,940

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1,300	(Pre-refunded 7/01/13) – NPF G Insured Massachusetts School Building Authority, Dedicated Sales Tax Revenue Bonds, Series 2005A, 5.000%, 8/15/20 (Pre-refunded 8/15/15) – AGM Insured (UB)	8/15 at 100.00	AA+	1,447,927
1,500	Massachusetts State, Special Obligation Dedicated Tax Revenue Bonds, Series 2004, 5.250%, 1/01/25 (Pre-refunded 1/01/14) – FGIC Insured	1/14 at 100.00	A1 (4)	1,563,990
750	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2005-11, 4.500%, 8/01/29 (Pre-refunded 8/01/15)	8/15 at 100.00	AAA	826,628
1,065	Puerto Rico, Highway Revenue Bonds, Highway and Transportation Authority, Series 2003AA, 5.500%, 7/01/19 – NPF G Insured (ETM)	No Opt. Call	Baa2 (4)	1,358,386
15,340	Total U.S. Guaranteed Utilities – 1.3% (0.9% of Total Investments)			16,731,328
185	Guam Power Authority, Revenue Bonds, Series 2012A, 5.000%, 10/01/30 – AGM Insured	10/22 at 100.00	AA–	211,736
750	Massachusetts Development Finance Agency, Resource Recovery Revenue Refunding Bonds, Covanta Energy Project, Series 2012B, 4.875%, 11/01/42	11/17 at 100.00	BB+	774,458
935	Total Utilities Water and Sewer – 6.2% (4.2% of Total Investments)			986,194
500	Boston Water and Sewerage Commission, Massachusetts, General Revenue Bonds, Senior Lien Refunding Series 2010A, 5.000%, 11/01/30	11/19 at 100.00	AA+	590,370
60	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2003-9, 5.000%, 8/01/22	8/13 at 100.00	AAA	61,200
285	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2004-10, 5.000%, 8/01/26	8/14 at 100.00	AAA	301,783
1,000	Massachusetts Water Pollution Abatement Trust, Pooled Loan Program Bonds, Series 2006-12, 4.375%, 8/01/31 (UB)	8/16 at 100.00	AAA	1,059,640
200	Massachusetts Water Pollution Abatement Trust, Revenue Bonds, MWRA Loan Program, Series 2002A, 5.250%, 8/01/20	5/13 at 100.00	AAA	200,895
1,500		8/17 at 100.00	AA+	1,729,710

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	Massachusetts Water Resources Authority, General Revenue Bonds, Series 2005A, 5.000%, 8/01/28 – NPMF Insured			
625	Massachusetts Water Resources Authority, General Revenue Bonds, Series 2006A, 4.000%, 8/01/46	8/16 at 100.00	AA+	640,188
4,170	Total Water and Sewer			4,583,786
\$ 102,045	Total Investments (cost \$102,359,947) – 148.6%			110,083,814
	Floating Rate Obligations – (1.9)%			(1,435,000)
	MuniFund Term Preferred Shares, at Liquidation Value – (49.5)% (5)			(36,645,000)
	Other Assets Less Liabilities – 2.8%			2,059,329
	Net Assets Applicable to Common Shares – 100%			\$ 74,063,143

Fair Value Measurements

Fair value is defined as the price that the Fund would receive upon selling an investment or transferring a liability in an orderly transaction to an independent buyer in the principal or most advantageous market for the investment. A three-tier hierarchy is used to maximize the use of observable market data and minimize the use of unobservable inputs and to establish classification of fair value measurements for disclosure purposes. Observable inputs reflect the assumptions market participants would use in pricing the asset or liability. Observable inputs are based on market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the reporting entity’s own assumptions about the assumptions market participants would use in pricing the asset or liability. Unobservable inputs are based on the best information available in the circumstances. The following is a summary of the three-tiered hierarchy of valuation input levels.

Level 1 – Inputs are unadjusted and prices are determined using quoted prices in active markets for identical securities.

Level 2 – Prices are determined using other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).

Level 3 – Prices are determined using significant unobservable inputs (including management’s assumptions in determining the fair value of investments).

The inputs or methodologies used for valuing securities are not an indication of the risks associated with investing in those securities. The following is a summary of the Fund’s fair value measurements as of the end of the reporting period:

	Level 1	Level 2	Level 3	Total
Long-Term Investments:				
Municipal Bonds	\$ —	\$ 110,083,814	\$ —	\$ 110,083,814

Income Tax Information

The following information is presented on an income tax basis. Differences between amounts for financial statement and federal income tax purposes are primarily due to timing differences in recognizing taxable market discount, timing differences in recognizing certain gains and losses on investment transactions and the treatment of investments in inverse floating rate securities reflected as financing transactions, if any. To the extent that differences arise that are permanent in nature, such amounts are reclassified within the capital accounts on the Statement of Assets and Liabilities presented in the annual report, based on their federal tax basis treatment; temporary differences do not require reclassification. Temporary and permanent differences do not impact the net asset value of the Fund.

As of February 28, 2013, the cost of investments was \$100,842,747.

Gross unrealized appreciation and gross unrealized depreciation of investments as of February 28, 2013, were as follows:

Gross unrealized:	
Appreciation	\$8,180,797

Depreciation	(374,508)
Net unrealized appreciation (depreciation) of investments	\$7,806,289

- (1) All percentages shown in the Portfolio of Investments are based on net assets applicable to Common shares unless otherwise noted.
 - (2) Optional Call Provisions: Dates (month and year) and prices of the earliest optional call or redemption. There may be other call provisions at varying prices at later dates. Certain mortgage-backed securities may be subject to periodic principal paydowns.
 - (3) Ratings: Using the highest of Standard & Poor's Group ("Standard & Poor's"), Moody's Investors Service, Inc. ("Moody's") or Fitch, Inc. ("Fitch") rating. Ratings below BBB by Standard & Poor's, Baa by Moody's or BBB by Fitch are considered to be below investment grade. Holdings designated N/R are not rated by any of these national rating agencies.
Backed by an escrow or trust containing sufficient U.S. Government or U.S. Government agency securities,
 - (4) which ensure the timely payment of principal and interest. Certain bonds backed by U.S. Government or agency securities are regarded as having an implied rating equal to the rating of such securities.
 - (5) MuniFund Term Preferred Shares, at Liquidation Value as a percentage of Total Investments is 33.3%.
 - N/R Not rated.
 - (ETM) Escrowed to maturity.
 - (IF) Inverse floating rate investment.
 - (UB) Underlying bond of an inverse floating rate trust reflected as a financing transaction.
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Item 2. Controls and Procedures.

- a. The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act") (17 CFR 270.30a-3(c))) are effective, as of a date within 90 days of the filing date of this report that includes the disclosure required by this paragraph, based on their evaluation of the controls and procedures required by Rule 30a-3(b) under the 1940 Act (17 CFR 270.30a-3(b)) and Rule 13a-15(b) or 15d-15(b) under the Securities Exchange Act of 1934 (17 CFR 240.13a-15(b) or 240.15d-15(b)).

- b. There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act (17 CFR 270.30a-3(d))) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3. Exhibits.

File as exhibits as part of this Form a separate certification for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2(a) under the 1940 Act (17 CFR 270.30a-2(a)), exactly as set forth below: See EX-99 CERT attached hereto.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant) Nuveen Massachusetts Premium Income Municipal Fund

By (Signature and Title) /s/ Kevin J. McCarthy
Kevin J. McCarthy
Vice President and Secretary

Date: April 29, 2013

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By (Signature and Title) /s/ Gifford R. Zimmerman
Gifford R. Zimmerman
Chief Administrative Officer (principal executive officer)

Date: April 29, 2013

By (Signature and Title) /s/ Stephen D. Foy
Stephen D. Foy
Vice President and Controller (principal financial officer)

Date: April 29, 2013