

BLACKROCK MUNIASSETS FUND, INC.

Form N-Q

September 28, 2009

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-07642

Name of Fund: BlackRock MuniAssets Fund, Inc. (MUA)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: Anne F. Ackerley, Chief Executive Officer, BlackRock MuniAssets Fund, Inc., 40 East 52nd Street, New York, NY 10022.

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 04/30/2010

Date of reporting period: 07/31/2009

Item 1 – Schedule of Investments

BlackRock MuniAssets Fund, Inc.

Schedule of Investments July 31, 2009 (Unaudited)

(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
Alabama - 0.6%	County of Jefferson Alabama, RB, Series A, 5.00%, 1/01/10	\$ 685	\$ 650,223
	Tuscaloosa Special Care Facilities Financing Authority, RB, Capstone Village, Series A, 5.88%, 8/01/36 (a)(b)	1,820	775,484
			1,425,707
Alaska - 0.2%	Alaska Industrial Development & Export Authority, RB, Williams Lynxs Alaska Cargoport, AMT, 7.80%, 5/01/14	590	559,408
Arizona - 7.8%	Coconino County Pollution Control Corp., Arizona, RB, Tucson Electric Power Navajo, Series A, AMT, 7.13%, 10/01/32	3,000	2,879,970
	Coconino County Pollution Control Corp., Arizona, RB, Tucson Electric Power Navajo, Series B, 7.00%, 10/01/32	2,500	2,382,975
	Maricopa County IDA, Arizona, RB, Arizona Charter Schools Project 1, Series A, 6.63%, 7/01/20	1,625	1,225,640
	Maricopa County IDA, Arizona, RB, Sun King Apartments Project, Series A, 6.75%, 5/01/31	1,615	1,246,037
	Phoenix IDA, Arizona, Refunding RB, America West Airlines Inc., AMT, 6.30%, 4/01/23	4,800	2,879,952
	Pima County IDA, RB, Arizona Charter School Project, Series E, 7.25%, 7/01/31	1,375	1,089,151
	Pima County IDA, RB, Arizona Charter Schools Project, Series O, 5.25%, 7/01/31	500	304,590
	Pima County IDA, RB, Charter Schools, II, Series A, 6.75%, 7/01/11 (c)	415	461,530
	Pima County IDA, RB, Charter Schools, II, Series A, 6.75%, 7/01/31	675	505,332
	Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/32	2,840	2,234,796
	Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37	1,850	1,407,517
	Show Low Improvement District, Arizona, Special Assessment, No. 5, 6.38%, 1/01/15	865	819,319
	University Medical Center Corp., Arizona, RB, 6.25%, 7/01/29	280	280,185
	University Medical Center Corp., Arizona, RB, 6.50%, 7/01/39	500	502,865
			18,219,859
California - 2.5%	City of Fontana California, Special Tax, Community Facilities District No. 22, Sierra Series H, 6.00%, 9/01/34	1,320	1,000,560
	City of San Jose California, RB, Series A (AMBAC), AMT, 5.50%, 3/01/32	3,290	2,964,027

Portfolio Abbreviations

To simplify the listings of portfolio holdings in the Schedule of Investments, the names and descriptions of many of the securities have been abbreviated according to the following list.

ACA	American Capital Access Corp.
AGC	Assured Guaranty Corp.
AMBAC	American Municipal Bond Assurance Corp.
AMT	Alternative Minimum Tax (subject to)
CAB	Capital Appreciation Bonds
EDA	Economic Development Authority
GO	General Obligation Bonds
HDA	Housing Development Authority
IDA	Industrial Development Authority
MBIA	Municipal Bond Investors Assurance (National Public Finance Guaranty Corp.)
RB	Revenue Bonds
TAN	Tax Anticipation Notes
TECP	Tax-Exempt Commercial Paper

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	Southern California Public Power Authority, RB, Project No. 1, Series A, 5.00%, 11/01/29	\$ 2,085	\$ 1,767,371
			5,731,958
Colorado - 4.5%	City & County of Denver Colorado, RB (AMBAC), AMT, 7.75%, 11/15/13	1,540	1,659,011
	Colorado Health Facilities Authority, RB, Christian Living Community Project, Series A, 5.75%, 1/01/26	650	537,166
	Elk Valley Public Improvement, RB, Public Improvement Fee, Series A, 7.10%, 9/01/14	1,410	1,396,549
	Elk Valley Public Improvement, RB, Public Improvement Fee, Series A, 7.30%, 9/01/22	2,095	1,864,990
	Elk Valley Public Improvement, RB, Public Improvement Fee, Series B, 7.45%, 9/01/31	260	212,043
	North Range Metropolitan District No. 1, Colorado, GO, 7.25%, 12/15/11 (c)	1,760	1,984,206
	Plaza Metropolitan District No. 1, Colorado, TAN, Public Improvement Fee, Tax Increment, 8.00%, 12/01/25	2,850	2,481,295
	Plaza Metropolitan District No. 1, Colorado, TAN, Sub Public Improvement Fee, Tax Increment, 8.13%, 12/01/25	525	411,527
			10,546,787
Connecticut - 2.5%	Connecticut State Development Authority, RB, AFCCO Cargo BDL, LLC Project, AMT, 8.00%, 4/01/30	3,490	3,050,225
	Connecticut State Development Authority, RB, Learjet Inc. Project, AMT, 7.95%, 4/01/26	680	684,148
	Mashantucket Western Pequot Tribe, RB, 2006 Series A Sub Special, 5.50%, 9/01/36	885	426,358
	Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31	2,610	1,752,223
			5,912,954
Florida - 9.9%	Capital Region Community Development District, Florida, Special Assessment, Capital Improvement, Series A, 7.00%, 5/01/39	945	688,404
	Greater Orlando Aviation Authority, Florida, RB, Special Purpose, JetBlue Airways Corp., AMT, 6.38%, 11/15/26	1,180	798,707
	Halifax Hospital Medical Center, RB, Refunding & Improvement, Series A, 5.00%, 6/01/38	1,160	905,925
	Harbor Bay Community Development District, Florida, Special Assessment, Series A, 7.00%, 5/01/33	455	439,139
	Hillsborough County IDA, RB, National Gypsum, AMT, Series A, 7.13%, 4/01/30	2,000	1,121,340

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Hillsborough County IDA, RB, National Gypsum, AMT, Series B, 7.13%, 4/01/30	1,540	863,432
Hillsborough County IDA, RB, Tampa General Hospital Project, 5.00%, 10/01/36	4,170	3,236,754
Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37	1,300	776,009
Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17	920	824,541

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	Lee County IDA, Florida, RB, Lee Charter Foundation, Series A, 5.38%, 6/15/37	\$ 2,620	\$ 1,525,233
	Midtown Miami Community Development District, Special Assessment, Series A, 6.25%, 5/01/37	3,255	2,182,478
	Orlando Urban Community Development District, Florida, Special Assessment, Capital Improvement, Series A, 6.95%, 5/01/11 (c)	2,245	2,460,138
	Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28	3,040	1,641,205
	Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/27	860	642,755
	Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/32	795	559,585
	Sumter Landing Community Development District, Florida, RB, Sub-Series B, 5.70%, 10/01/38	2,405	1,541,028
	Tolomato Community Development District, Special Assessment, 6.65%, 5/01/40	2,680	1,826,340
	Waterchase Community Development District, Florida, RB, Series A, 6.70%, 5/01/11 (c)	870	949,570
			22,982,583
Georgia - 2.2%	City of Atlanta Georgia, TAN, Princeton Lakes Project, 5.50%, 1/01/31	640	486,266
	County of Clayton Georgia, TAN, Ellenwood Project, 7.50%, 7/01/33	2,375	2,033,238
	Gainesville & Hall County Development Authority, RB, ACTS Retirement, Life Community, Series A-2, 6.38%, 11/15/29	700	705,425
	Gainesville & Hall County Development Authority, RB, ACTS Retirement, Life Community, Series A-2, 6.63%, 11/15/39	235	236,798
	Rockdale County Development Authority, RB, Visy Paper Project, Series A, AMT, 6.13%, 1/01/34	2,435	1,751,252
			5,212,979
Guam - 3.3%	Guam Government Waterworks Authority, RB, Water, 5.88%, 7/01/35	2,305	2,023,950
	Territory of Guam, GO, Series A, 5.75%, 11/15/14	285	283,002
	Territory of Guam, GO, Series A, 6.00%, 11/15/19	365	357,919
	Territory of Guam, GO, Series A, 6.75%, 11/15/29	635	634,771
	Territory of Guam, GO, Series A, 7.00%, 11/15/39	660	657,433
	Territory of Guam, RB, Section 30, Series A, 5.63%, 12/01/29	1,460	1,422,799
	Territory of Guam, RB, Section 30, Series A, 5.75%, 12/01/34	2,250	2,205,698
			7,585,572

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Illinois - 3.0%	City of Chicago Illinois, Refunding RB, American Airlines, 5.50%, 12/01/30	4,140	1,533,042
	Illinois Finance Authority, RB, Clare at Water Tower Project, Series A, 6.13%, 5/15/38	2,950	1,481,106
	Illinois Finance Authority, RB, Landing at Plymouth Place Project, Series A, 6.00%, 5/15/37	600	428,316
	Illinois Finance Authority, RB, Monarch Landing Inc. Facilities, Series A, 7.00%, 12/01/37	820	464,145
	Illinois Finance Authority, RB, Primary Health Care Centers Program, 6.60%, 7/01/24	685	534,732

3

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	Illinois Finance Authority, RB, Rush University Medical Center Obligation Group, Series B, 7.25%, 11/01/30	\$ 1,170	\$ 1,246,869
	Lincolnshire Special Service Area No. 1, Illinois, Special Tax, Sedgebrook Project, 6.25%, 3/01/34	1,070	719,896
	Village of Wheeling Illinois, TAN, North Milwaukee, Lake-Cook TIF Project, 6.00%, 1/01/25	825	660,355
			7,068,461
Indiana - 0.9%	Vanderburgh County Redevelopment Commission, Indiana, TAN, 5.25%, 2/01/31	1,200	1,073,448
	Vigo County Hospital Authority, Indiana, RB, Union Hospital Inc., 5.70%, 9/01/37	615	440,402
	Vigo County Hospital Authority, Indiana, RB, Union Hospital Inc., 5.75%, 9/01/42	765	540,725
			2,054,575
Iowa - 1.1%	Iowa Finance Authority, Refunding RB, Care Initiatives Project, 9.25%, 7/01/11 (c)	2,110	2,454,858
Louisiana - 2.0%	Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, 6.75%, 11/01/32	3,000	2,495,340
	Parish of Saint John Baptist Louisiana, RB, Marathon Oil Corp., Series A, 5.13%, 6/01/37	2,600	2,222,220
			4,717,560
Maryland - 1.5%	Maryland Economic Development Corp., RB, Health & Mental Hygiene Program, Series A, 7.75%, 3/01/25	1,765	1,706,137
	Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38	590	294,245
	Maryland State Energy Financing Administration Industrial Development Revenue, RB, Cogeneration, AES Warrior Run, AMT, 7.40%, 9/01/19	1,500	1,345,665
			3,346,047
Massachusetts - 2.5%	Massachusetts Development Finance Agency, Refunding RB, Dominion Energy Brayton, Series I, 5.75%, 12/01/42	1,200	1,235,712
	Massachusetts Health & Educational Facilities Authority, RB, Bay Cove Human Services Issue, Series A, 5.90%, 4/01/28	1,930	1,976,899
	Massachusetts Health & Educational Facilities Authority, RB, Jordan Hospital, Series E, 6.75%, 10/01/33	1,150	886,489

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	Massachusetts Port Authority, RB, Delta Air Lines Inc. Project (AMBAC), AMT, Series A, 5.50%, 1/01/19	2,400	1,683,096
			5,782,196
Michigan - 2.6%	Advanced Technology Academy, RB, 6.00%, 11/01/37	900	639,333
	Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35	1,740	1,231,642
	Royal Oak Hospital Finance Authority, Michigan, RB, William Beaumont Hospital, 8.25%, 9/01/39	3,735	4,213,341
			6,084,316

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