

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
			<u>1,425,707</u>
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
			<u>18,219,859</u>
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

BlackRock MuniAssets Fund, Inc.

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State	Municipal Bonds	Par (000)	Value
	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

BlackRock MuniAssets Fund, Inc.

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(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
	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

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State	Municipal Bonds	Par (000)	Value
	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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State	Municipal Bonds	Par (000)	Value
Minnesota - 0.8%	City of Minneapolis Minnesota, RB, Fairview Health Services, Series A, 6.75%, 11/15/32	\$ 1,785	\$ 1,884,264
Missouri - 0.3%	Kansas City IDA, Missouri, RB, First Mortgage, Bishop Spencer, Series A, 6.50%, 1/01/35	1,000	730,950
Nevada - 0.7%	Clark County Improvement District, Nevada, Special Assessment, Special Improvement District No. 142, Local Improvement, 6.38%, 8/01/23	615	482,597
	County of Clark Nevada, RB, Nevada Power Co. Project, AMT, Series A, 5.60%, 10/01/30	1,380	1,152,245
			1,634,842
New Hampshire - 0.4%	New Hampshire Health & Education Facilities Authority, RB, Catholic Medical Center, 5.00%, 7/01/36	1,165	850,089
New Jersey - 11.3%	Camden County Pollution Control Financing Authority, RB, AMT, Series A, 7.50%, 12/01/10	9,000	8,979,570
	Camden County Pollution Control Financing Authority, RB, AMT, Series B, 7.50%, 12/01/09	125	124,699
	New Jersey EDA, RB, Cedar Crest Village Inc. Facilities, Series A, 7.25%, 11/15/11 (c)	1,665	1,885,529
	New Jersey EDA, RB, Cigarette Tax, 5.50%, 6/15/24	3,065	2,621,249
	New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.25%, 9/15/19	2,000	1,541,220
	New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.25%, 9/15/29	3,330	2,280,717
	New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 9.00%, 6/01/33	1,250	1,149,012
	New Jersey EDA, Refunding RB, Newark Airport Marriott Hotel, 7.00%, 10/01/14	2,500	2,421,225
	New Jersey Educational Facilities Authority, Refunding RB, University Medical & Dentistry, Series B, 7.50%, 12/01/32	2,510	2,652,593
	New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36 (a)(b)	2,000	51,200
	New Jersey Health Care Facilities Financing Authority, RB, Saint Joseph's Healthcare System, 6.63%, 7/01/38	2,410	2,022,062
	New Jersey Transportation Trust Fund Authority, New Jersey, RB, CAB, Transportation System (AMBAC), Series C, 5.05%, 12/15/35 (d)	3,450	594,504
			26,323,580
New Mexico - 1.1%		2,500	2,500,350

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Farmington New Mexico, RB, Tucson Electric Power
Co., San Juan, Series A, 6.95%, 10/01/20

New York - 6.0%			
	Dutchess County Industrial Development Agency, New York, Refunding RB, Saint Francis Hospital, Series A, 7.50%, 3/01/29	1,400	1,306,396
	Metropolitan Transportation Authority, RB, Series 2008-C, 6.50%, 11/15/28	3,685	4,082,722
	New York City Industrial Development Agency, RB, American Airlines, JFK International Airport, AMT, 8.00%, 8/01/28	1,045	832,499

BlackRock MuniAssets Fund, Inc.

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(Percentages shown are based on Net Assets)

State	Municipal Bonds	Par (000)	Value
	New York City Industrial Development Agency, RB, British Airways Plc Project, AMT, 7.63%, 12/01/32	\$ 2,400	\$ 1,849,824
	New York City Industrial Development Agency, RB, Series C, 6.80%, 6/01/28	510	521,801
	New York City Industrial Development Agency, RB, Special Needs Facilities Pooled Program, Series C-1, 6.63%, 7/01/29	1,515	1,183,715
	New York Liberty Development Corp., RB, National Sports Museum Project, Series A, 6.13%, 2/15/19 (a)(b)	870	870
	New York State Dormitory Authority, RB, Mt. Sinai NYU Health, Remarketed, Series C, 5.50%, 7/01/26	1,470	1,469,868
	New York State Dormitory Authority, RB, NYU Hospitals Center, Series A, 5.00%, 7/01/20	2,960	2,618,653
	Westchester County Industrial Development Agency, New York, RB, Mortgage, Kendal On Hudson Project, Series A, 6.50%, 1/01/13 (c)	100	116,336
			13,982,684
North Carolina - 1.5%	North Carolina Medical Care Commission, RB, First Mortgage, Deerfield, Series A, 6.13%, 11/01/38	2,335	1,992,619
	North Carolina Medical Care Commission, RB, First Mortgage, Givens Estates Project, Series A, 6.50%, 7/01/13 (c)	1,250	1,498,112
			3,490,731
Ohio - 1.9%	Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior, Turbo, Series A-2, 5.13%, 6/01/24	2,270	1,862,648
	Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior, Turbo, Series A-2, 6.50%, 6/01/47	3,935	2,502,699
			4,365,347
Pennsylvania - 8.2%	Allegheny County Hospital Development Authority, RB, Health System, West Penn, Series A, 5.38%, 11/15/40	3,015	1,802,307
	Bucks County IDA, RB, Ann s Choice Inc., Facilities, Series A, 6.13%, 1/01/25	200	163,282
	Bucks County IDA, RB, Ann s Choice Inc., Facilities, Series A, 6.25%, 1/01/35	1,550	1,162,221
	Lancaster County Hospital Authority, RB, Brethren Village Project, Series A, 6.25%, 7/01/26	685	639,612
	Lancaster County Hospital Authority, RB, Brethren Village Project, Series A, 6.50%, 7/01/40	590	527,737
	Montgomery County IDA, Pennsylvania, RB, Mortgage, Whitemarsh Continuing Care, 6.13%, 2/01/28	2,330	1,565,457
		3,250	1,823,120

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Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Remarketed, AMT, Series A, 6.25%, 11/01/27		
Pennsylvania Economic Development Financing Authority, RB, Reliant Energy, AMT, Series B, 6.75%, 12/01/36	2,040	1,893,650
Pennsylvania Higher Educational Facilities Authority, RB, Allegheny Delaware Valley Obligation (MBIA), Series A, 5.88%, 11/15/16	2,410	2,149,238
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BlackRock MuniAssets Fund, Inc.

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State	Municipal Bonds	Par (000)	Value
	Philadelphia Authority for Industrial Development, RB, Air Cargo, AMT, Sub-Series A, 7.50%, 1/01/25	\$ 2,270	\$ 1,915,766
	Philadelphia Authority for Industrial Development, RB, Commercial Development, Remarketed, AMT, 7.75%, 12/01/17	6,440	5,550,765
			19,193,155
Puerto Rico - 0.7%	Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44	1,650	1,727,798
Rhode Island - 0.7%	Central Falls Detention Facility Corp., Rhode Island, Refunding RB, 7.25%, 7/15/35	2,495	1,734,524
South Carolina - 0.4%	Connector 2000 Association Inc., RB, CAB, Senior, Series B, 8.87%, 1/01/14 (d)	1,485	835,684
Tennessee - 1.3%	Knox County Health Educational & Housing Facilities Board, Tennessee, Refunding & Improvement RB, Covenant Health, Series A, 5.06%, 1/01/40 (d)	6,785	747,232
	Shelby County Health Educational & Housing Facilities Board, RB, Germantown Village, 6.25%, 12/01/34	355	260,055
	Shelby County Health Educational & Housing Facilities Board, RB, Germantown Village, Series A, 7.25%, 12/01/34	2,500	2,101,250
			3,108,537
Texas - 5.1%	Brazos River Authority, Refunding RB, TXU Electric Co. Project, AMT, Series C, 5.75%, 5/01/36	2,885	2,236,539
	Brazos River Authority, Refunding RB, Texas Utility Co., Remarketed, AMT, Series A, 7.70%, 4/01/33	2,550	1,198,525
	City of Houston Texas, RB, Special Facilities, Continental, AMT, Series E, 6.75%, 7/01/21	2,685	2,102,838
	Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.13%, 12/01/31	1,500	1,619,100
	Matagorda County Navigation District No. 1, Texas, Refunding RB, Central Power & Light Co. Project, Remarketed, Series A, 6.30%, 11/01/29	1,240	1,286,252
	North Texas Tollway Authority, RB, Toll Second Tier, Refunding, Series F, 6.13%, 1/01/31	2,775	2,796,007
	Texas State Public Finance Authority, RB, Kipp Inc. Education (ACA), Series A, 5.00%, 2/15/28	1,000	706,550
			11,945,811
U.S. Virgin Islands - 1.3%		3,000	2,965,560

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	United States Virgin Islands, RB, Senior Secured, Hovensa Coker Project, AMT, 6.50%, 7/01/21		
Utah - 0.7%	County of Carbon Utah, Refunding RB, Laidlaw Environmental, AMT, Series A, 7.45%, 7/01/17	1,660	1,661,477
Virginia - 1.3%	Dulles Town Center Community Development Authority, Virginia, Special Assessment, Dulles Town Center Project, 6.25%, 3/01/26	1,435	1,052,113
	Fairfax County EDA, RB, Goodwin House Inc., 5.13%, 10/01/37	750	580,972
	Fairfax County EDA, RB, Goodwin House Inc., 5.13%, 10/01/42	450	340,344
	Lexington IDA, RB, Mortgage, Kendal at Lexington, Series A, 5.38%, 1/01/28	540	395,334

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State	Municipal Bonds	Par (000)	Value
	Tobacco Settlement Financing Corp., Virginia, RB, Senior, Series B-1, 5.00%, 6/01/47	\$ 1,320	\$ 717,143
			3,085,906
Washington - 0.5%	Washington State Housing Finance Commission, Washington, RB, Skyline at First Hill Project, Series A, 5.63%, 1/01/38	1,750	1,110,900
Wisconsin - 0.7%	Wisconsin Health & Educational Facilities Authority, RB, New Castle Place Project, Series A, 7.00%, 12/01/31	1,855	1,563,821
Wyoming - 2.5%	County of Sweetwater Wyoming, Refunding RB, FMC Corp. Project, AMT, 5.60%, 12/01/35	3,600	2,909,448
	Wyoming Municipal Power Agency, Wyoming, RB, Series A, 5.38%, 1/01/42	3,030	2,950,493
			5,859,941
	Total Municipal Bonds - 94.5%		220,241,771
	Municipal Bonds Transferred to Tender Option Bond Trusts (e)		
District of Columbia - 1.8%	District of Columbia Water & Sewer Authority, Refunding RB, Series A, 6.00%, 10/01/35	3,951	4,274,191
Florida - 3.4%	County of Miami-Dade, Florida, Refunding RB, Miami International Airport (AGC), AMT, Series A, 5.25%, 10/01/33	8,870	7,861,304
Virginia - 3.7%	Virginia HDA, RB (MBIA), Sub-Series H-1, 5.38%, 7/01/36	8,690	8,724,847
	Total Municipal Bonds Transferred to Tender Option Bond Trusts - 8.9%		20,860,342
	Total Long-Term Investments (Cost - \$276,562,061) - 103.4%		241,102,113
	Short-Term Securities		
California - 0.2%	California State, TECP, 4.00%, 8/05/09 (f)	500	500,000
			Shares
Money Market Fund - 0.2%	FFI Institutional Tax-Exempt Fund, 0.42% (g)(h)	400,000	400,000

Total Short-Term Securities (Cost - \$900,000) - 0.4%	900,000
Total Investments (Cost - \$277,462,061*) - 103.8%	242,002,113
Other Assets Less Liabilities - 0.8%	1,839,602
Liability for Trust Certificates, Including Interest Expense and Fees Payable - (4.6)%	(10,767,569)
Net Assets - 100.0%	\$ 233,074,146

* The cost and unrealized appreciation (depreciation) of investments as of July 31, 2009, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$ 266,937,405
Gross unrealized appreciation	\$ 6,920,868
Gross unrealized depreciation	(42,611,806)
Net unrealized depreciation	\$ (35,690,938)

- (a) Issuer filed for bankruptcy and/or is in default of interest payments.
- (b) Non-income producing security.
- (c) US government securities, held in escrow, are used to pay interest on this security as well as to retire the bond in full at the date indicated, typically at a premium to par.
- (d) Represents a zero coupon bond. Rate shown reflects the current yield as of report date.
- (e) Securities represent bonds transferred to a tender option bond trust in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.

BlackRock MuniAssets Fund, Inc.**Schedule of Investments July 31, 2009 (Unaudited)**

- (f) Security may have a maturity of more than one year at the time of issuance, but has variable rate and demand features that qualify it as a short-term security. Rate shown is as of report date and maturity shown is the date the principal owed can be recovered through demand.
- (g) Investments in companies considered to be an affiliate of the Fund, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, were as follows:

Affiliate	Net Activity	Income
FFI Institutional Tax-Exempt Fund	(1,601,534)	\$ 1,342

- (h) Variable rate security. Rate shown is as of report date.

Financial Accounting Standards Board Statement of Financial Accounting Standards No. 157, Fair Value Measurements clarifies the definition of fair value, establishes a framework for measuring fair values and requires additional disclosures about the use of fair value measurements. Various inputs are used in determining the fair value of investments, which are as follows:

Level 1 - price quotations in active markets/exchanges for identical securities

Level 2 - other observable inputs (including, but not limited to: quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market-corroborated inputs)

Level 3 - unobservable inputs based on the best information available in the circumstances, to the extent observable inputs are not available (including the Fund's own assumptions used in determining the fair value of investments)

The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its annual report.

The following table summarizes the inputs used as of July 31, 2009 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Investments in Securities
	Assets
Level 1 - Short-Term Securities	\$ 400,000
Level 2 - Long-Term Investments ¹	241,102,113
Short-Term Securities	500,000
Total Level 2	241,602,113
Level 3	

Total	\$ 242,002,113
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¹See above Schedule of Investments for values in each state/political classification.

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Item 2 – Controls and Procedures

2(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")) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13(a)-15(b) under the Securities Exchange Act of 1934, as amended.

2(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) 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

Certifications – Attached hereto

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.

BlackRock MuniAssets Fund, Inc.

By: /s/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer of
BlackRock MuniAssets Fund, Inc.

Date: September 22, 2009

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: /s/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer (principal executive officer) of
BlackRock MuniAssets Fund, Inc.

Date: September 22, 2009

By: /s/ Neal J. Andrews
Neal J. Andrews
Chief Financial Officer (principal financial officer) of
BlackRock MuniAssets Fund, Inc.

Date: September 22, 2009