

BLACKROCK MUNIASSETS FUND, INC.
Form N-Q
March 31, 2010
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., 55 East 52nd Street, New York, NY 10055.

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

Date of fiscal year end: 04/30/2010

Date of reporting period: 01/31/2010

Item 1 – Schedule of Investments

Schedule of Investments January 31, 2010 (Unaudited)

BlackRock MuniAssets Fund, Inc. (MUA)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Alabama 0.4%		
County of Jefferson Alabama, RB, Series A, 5.25%, 1/01/17	\$ 530	\$ 476,989
Tuscaloosa Special Care Facilities Financing Authority, RB, Capstone Village, Series A, 5.88%, 8/01/36 (a)(b)	1,820	561,361
		1,038,350
Alaska 0.2%		
Alaska Industrial Development & Export Authority, RB, Williams Lynxs, Alaska Cargoport, AMT, 7.80%, 5/01/14	590	578,188
Arizona 6.7%		
Coconino County Pollution Control Corp., Arizona, Refunding RB, Tucson Electric Power-Navajo, Series A, AMT, 7.13%, 10/01/32	3,000	3,001,140
Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.63%, 7/01/20	1,625	1,245,140
Maricopa County IDA Arizona, RB, Sun King Apartments Project, Series A, 6.75%, 5/01/31	1,615	1,251,254
Phoenix IDA Arizona, Refunding RB, America West Airlines Inc. Project, AMT, 6.30%, 4/01/23	4,800	3,204,528
Pima County IDA, RB, Arizona Charter Schools Project, Series E, 7.25%, 7/01/31	1,375	1,330,711
Pima County IDA, Refunding IDR, B, Tucson Electric Power, 5.75%, 9/01/29	670	676,868
Pima County IDA, Refunding RB, Arizona Charter Schools Project, Series O, 5.25%, 7/01/31	500	378,355
Pima County IDA, Refunding RB, Charter Schools II, Series A, 6.75%, 7/01/31	670	615,120
Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/32	2,840	2,495,536
Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37	1,850	1,574,498
Municipal Bonds	Par (000)	Value

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Arizona (concluded)

Show Low Improvement District, Special Assessment Bonds, District No. 5, 6.38%, 1/01/15	\$ 745	\$ 746,117
University Medical Center Corp. Arizona, RB, 6.25%, 7/01/29	280	296,957
University Medical Center Corp. Arizona, RB, 6.50%, 7/01/39	500	528,820
		17,345,044

California 2.7%

California Health Facilities Financing Authority, RB, Cedars-Sinai Medical Center, 5.00%, 8/15/39	1,115	1,029,435
California Statewide Communities Development Authority, Refunding RB, Senior Living, Southern California, 7.00%, 11/15/29	600	632,520
California Statewide Communities Development Authority, Refunding RB, Senior Living, Southern California, 7.25%, 11/15/41	2,060	2,184,156
City of Fontana California, Special Tax Bonds, Refunding, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34	1,320	1,222,703
State of California, GO, 4.50%, 10/01/36	2,555	2,048,037
		7,116,851

Colorado 3.5%

City & County of Denver Colorado, RB, Series D, AMT (AMBAC), 7.75%, 11/15/13	1,310	1,455,973
Colorado Health Facilities Authority, Refunding RB, Christian Living Communities Project, Series A, 5.75%, 1/01/26	650	579,560
Elk Valley Public Improvement Corp., RB, Public Improvement Fee, Series A, 7.10%, 9/01/14	1,395	1,425,090
Elk Valley Public Improvement Corp., RB, Public Improvement Fee, Series A, 7.30%, 9/01/22	2,095	2,028,316

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.
AGM	Assured Guaranty Municipal Corp.
AMBAC	American Municipal Bond Assurance Corp.

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AMT	Alternative Minimum Tax (subject to)
CAB	Capital Appreciation Bonds
EDA	Economic Development Authority
EDC	Economic Development Corp.
ERB	Education Revenue Bonds
GO	General Obligation Bonds
HDA	Housing Development Authority
IDA	Industrial Development Authority
IDRB	Industrial Development Revenue Bonds
NPFGC	National Public Finance Guaranty Corp.
MRB	Mortgage Revenue Bonds
RB	Revenue Bonds
TE	Tax-Exempt

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2010

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)
 (Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Colorado (concluded)		
Elk Valley Public Improvement Corp., RB, Public Improvement Fee, Series B, 7.45%, 9/01/31	\$ 200	\$ 184,402
Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Public Improvement Fee, Tax Increment, 8.00%, 12/01/25	2,850	2,809,359
Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Subordinate Public Improvement Fee, Tax Increment, 8.13%, 12/01/25	525	492,382
		<u>8,975,082</u>
Connecticut 2.9%		
Connecticut State Development Authority, RB, AFCO Cargo BDL LLC Project, AMT, 8.00%, 4/01/30	3,490	3,188,220
Harbor Point Infrastructure Improvement District, Tax Allocation Bonds, Harbor Point Project, Series A, 7.88%, 4/01/39 (c)	2,340	2,340,889
Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31	2,610	2,090,584
		<u>7,619,693</u>
District of Columbia 2.2%		
District of Columbia, RB, Methodist Home District of Columbia, Series A, 7.38%, 1/01/30	985	985,394
District of Columbia, RB, Methodist Home District of Columbia, Series A, 7.50%, 1/01/39	1,615	1,603,534
District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset- Backed, 6.50%, 5/15/33	1,055	1,042,403
Metropolitan Washington Airports Authority, RB, CAB, Second Senior Lien, Series B (AGC), 6.53%, 10/01/30 (d)	7,000	2,045,820
		<u>5,677,151</u>

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Florida 9.5%		
Capital Region Community Development District, Florida, Special Assessment Bonds, Capital Improvement, Series A, 7.00%, 5/01/39	945	906,387
County of Miami-Dade, Florida, Refunding RB, Miami International Airport, Series A-1, 5.38%, 10/01/41	705	698,056
Greater Orlando Aviation Authority Florida, RB, Special Purpose, JetBlue Airways Corp., AMT, 6.38%, 11/15/26	1,180	1,057,339
Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33	455	458,408

Municipal Bonds	Par (000)	Value
Florida (concluded)		
Hillsborough County IDA, RB, National Gypsum Co., Series A, AMT, 7.13%, 4/01/30	\$ 2,000	\$ 1,540,060
Hillsborough County IDA, RB, National Gypsum Co., Series B, AMT, 7.13%, 4/01/30	1,540	1,185,846
Hillsborough County IDA, RB, Tampa General Hospital Project, 5.00%, 10/01/36	4,170	3,793,157
Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37	1,300	937,196
Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17	850	868,105
Lee County IDA Florida, RB, Series A, Lee Charter Foundation, 5.38%, 6/15/37	2,620	1,928,635
Main Street Community Development District, Special Assessment Bonds, Series B, 6.90%, 5/01/17	500	440,830
Midtown Miami Community Development District, Special Assessment Bonds, Series A, 6.25%, 5/01/37	3,255	2,763,495
Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28	3,040	1,702,491
Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/27	860	763,586
Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/32	795	680,464
Sarasota County Public Hospital District, RB, Sarasota Memorial Hospital Project, Series A, 5.63%, 7/01/39	1,025	1,041,810
Sumter Landing Community Development District Florida, RB, Sub-Series B, 5.70%, 10/01/38	2,380	1,793,068

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Tolomato Community Development District, Special Assessment Bonds, Special Assessment, 6.65%, 5/01/40	2,680	2,143,250
		24,702,183

Georgia 3.0%

City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31	640	554,208
Clayton County Development Authority, RB, Delta Air Lines Inc. Project, Series A, 8.75%, 6/01/29	1,990	2,045,819
County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33	2,375	2,228,581
Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2, 6.38%, 11/15/29	700	728,616

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Georgia (concluded)		
Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2, 6.63%, 11/15/39	\$ 235	\$ 242,920
Rockdale County Development Authority, RB, Visy Paper Project, Series A, AMT, 6.13%, 1/01/34	2,435	1,962,415
		<u>7,762,559</u>
Guam 3.3%		
Guam Government Waterworks Authority, Refunding RB, Water, 6.00%, 7/01/25	750	750,982
Guam Government Waterworks Authority, Refunding RB, Water, 5.88%, 7/01/35	2,305	2,235,988
Territory of Guam, GO, Series A, 6.00%, 11/15/19	365	370,687
Territory of Guam, GO, Series A, 6.75%, 11/15/29	635	657,638
Territory of Guam, GO, Series A, 7.00%, 11/15/39	660	677,299
Territory of Guam, RB, Section 30, Series A, 5.63%, 12/01/29	1,460	1,471,402
Territory of Guam, RB, Section 30, Series A, 5.75%, 12/01/34	2,250	2,275,065
		<u>8,439,061</u>
Illinois 4.0%		
City of Chicago Illinois, Refunding RB, American Airlines Inc. Project, 5.50%, 12/01/30	4,140	2,815,531
Illinois Finance Authority, RB, Clare at Water Tower Project, Series A, 6.13%, 5/15/38	2,950	1,181,564
Illinois Finance Authority, RB, Monarch Landing Inc. Facility, Series A, 7.00%, 12/01/37 (a)(b)	820	262,400
Illinois Finance Authority, RB, Roosevelt University Project, 6.50%, 4/01/44	2,470	2,537,480
Illinois Finance Authority, RB, Rush University Medical Center Obligation Group, Series B, 7.25%, 11/01/30	1,170	1,298,606
	685	607,157

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Illinois Finance Authority, Refunding RB, Primary Health Care Centers Program, 6.60%, 7/01/24		
Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34	1,070	843,802
Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25	825	733,227
		<u>10,279,767</u>

Indiana 1.6%

Indiana Finance Authority, Refunding RB, Duke Energy Indiana, Inc., Series C, 4.95%, 10/01/40	2,025	1,963,966
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Municipal Bonds	Par (000)	Value
Indiana (concluded)		
Vanderburgh County Redevelopment Commission Indiana, Tax Allocation Bonds, 5.25%, 2/01/31	\$ 1,200	\$ 1,147,080
Vigo County Hospital Authority Indiana, RB, Union Hospital Inc., 5.70%, 9/01/37 (e)	615	508,193
Vigo County Hospital Authority Indiana, RB, Union Hospital Inc., 5.75%, 9/01/42 (e)	765	627,063
		<u>4,246,302</u>

Louisiana 1.2%

Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, 6.75%, 11/01/32	3,000	3,093,660
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Maryland 1.8%

Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35	615	621,150
Maryland EDC, Refunding RB, Health & Mental Hygiene Program, Series A, 7.75%, 3/01/25	1,765	1,782,332
Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38	590	283,194
Maryland Health & Higher Educational Facilities Authority, Refunding RB, University of Maryland Medical System, 5.13%, 7/01/39	860	854,143
Maryland State Energy Financing Administration, RB, Cogeneration, AES Warrior Run, AMT, 7.40%,	1,080	1,080,249

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9/01/19

4,621,068

Massachusetts 0.6%

Massachusetts Development Finance Agency, Refunding RB, Eastern Nazarene College, 5.63%, 4/01/29	500	398,120
Massachusetts Health & Educational Facilities Authority, RB, Jordan Hospital, Series E, 6.75%, 10/01/33	1,150	1,041,475
		1,439,595

Michigan 2.7%

Advanced Technology Academy, RB, 6.00%, 11/01/37	900	754,101
County of Wayne Michigan, GO, Building Improvement, Series A, 6.75%, 11/01/39	545	567,585
Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35	1,740	1,354,120

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Michigan (concluded)		
Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39	\$ 3,735	\$ 4,330,434
		<u>7,006,240</u>
Minnesota 0.8%		
City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/32	1,785	1,980,779
Missouri 0.3%		
Kansas City IDA Missouri, RB, First Mortgage, Bishop Spencer, Series A, 6.50%, 1/01/35	1,000	853,180
Montana 0.5%		
Kirkwood Industrial Development Authority, Montana, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 (c)	1,370	1,347,436
Multi-State 0.4%		
MuniMae TE Bond Subsidiary LLC, 7.50% (e)(f)(g)	987	915,341
Nevada 0.2%		
County of Clark Nevada, Special Assessment Bonds, Special Improvement District No. 142, Local Improvement, 6.38%, 8/01/23	610	570,478
New Hampshire 0.4%		
New Hampshire Health & Education Facilities Authority, RB, Catholic Medical Center, 5.00%, 7/01/36	1,165	972,530
New Jersey 9.3%		
Camden County Pollution Control Financing Authority, Refunding RB, Series A, AMT, 7.50%, 12/01/10	7,250	7,251,377
New Jersey EDA, RB, Cigarette Tax, 5.50%, 6/15/24	2,470	2,424,157
New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.25%, 9/15/19	2,000	1,872,080

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New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.25%, 9/15/29	3,330	2,908,522
New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 9.00%, 6/01/33	1,250	1,310,050
New Jersey EDA, Refunding RB, Newark Airport Marriott Hotel, 7.00%, 10/01/14	2,500	2,471,375
New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B, 7.50%, 12/01/32	2,510	2,829,523

Municipal Bonds	Par (000)	Value
New Jersey (concluded)		
New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36 (a)(b)	\$ 2,000	\$ 20
New Jersey Health Care Facilities Financing Authority, Refunding RB, St. Joseph's Healthcare System, 6.63%, 7/01/38	2,410	2,418,290
New Jersey Transportation Trust Fund Authority, RB, CAB, Transportation System, Series C (AMBAC), 5.05%, 12/15/35 (d)	3,450	696,452
		24,181,846

New York 6.0%		
Brooklyn Arena Local Development Corp., RB, Barclays Center Project, 6.38%, 7/15/43	1,000	1,020,940
Chautauqua County Industrial Development Agency, RB, NRG Dunkirk Power Project, 5.88%, 4/01/42	2,485	2,521,579
Dutchess County Industrial Development Agency New York, Refunding RB, St. Francis Hospital, Series A, 7.50%, 3/01/29	1,400	1,376,200
Metropolitan Transportation Authority, RB, Series 2008C, 6.50%, 11/15/28	3,685	4,206,464
New York City Industrial Development Agency, RB, American Airlines Inc., JFK International Airport, AMT, 8.00%, 8/01/28	1,045	1,048,052
New York City Industrial Development Agency, RB, British Airways Plc Project, AMT, 7.63%, 12/01/32	2,400	2,191,680
New York City Industrial Development Agency, RB, Series C, 6.80%, 6/01/28	510	537,295
New York City Industrial Development Agency, RB, Special Needs Facilities Pooled Program, Series C-1, 6.63%,	1,515	1,343,790

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7/01/29

New York Liberty Development Corp., RB, National Sports Museum Project, Series A, 6.13%, 2/15/19 (a)(b)	870	9
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Yonkers Industrial Development Agency

New York, RB, Sarah Lawrence College Project, Series A, 6.00%, 6/01/41	1,240	1,280,263
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15,526,272

North Carolina 1.5%

North Carolina Medical Care Commission, RB, First Mortgage, Givens Estates Project, Series A, 6.50%, 7/01/13 (h)	1,250	1,483,462
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BLACKROCK MUNIASSETS FUND, INC.

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)
 (Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
North Carolina (concluded)		
North Carolina Medical Care Commission, Refunding RB, First Mortgage, Deerfield, Series A, 6.13%, 11/01/38	\$ 2,335	\$ 2,277,746
		<u>3,761,208</u>
Ohio 2.1%		
Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2, 5.13%, 6/01/24	2,265	2,096,552
Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2, 6.50%, 6/01/47	3,935	3,299,970
		<u>5,396,522</u>
Pennsylvania 10.1%		
Allegheny County Hospital Development Authority, Refunding RB, Health System, West Penn, Series A, 5.38%, 11/15/40	3,960	2,910,560
Bucks County IDA, RB, Ann s Choice, Inc. Facility, Series A, 6.13%, 1/01/25	200	187,276
Bucks County IDA, RB, Ann s Choice, Inc. Facility, Series A, 6.25%, 1/01/35	1,550	1,384,553
Cumberland County Municipal Authority, RB, Diakon Lutheran, 6.38%, 1/01/39	3,655	3,567,609
Lancaster County Hospital Authority, RB, Brethren Village Project, Series A, 6.25%, 7/01/26	685	659,806
Lancaster County Hospital Authority, RB, Brethren Village Project, Series A, 6.50%, 7/01/40	590	553,013
Montgomery County IDA Pennsylvania, MRB, Whitemarsh Continuing Care, 6.13%, 2/01/28	2,330	1,763,437
Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Series A, AMT, 6.25%, 11/01/27	3,250	2,297,945
Pennsylvania Economic Development Financing Authority, RB, Reliant	2,040	2,063,134

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Energy, Series B, AMT, 6.75%, 12/01/36		
Pennsylvania Higher Educational Facilities Authority, Refunding RB, Allegheny Delaware Valley Obligation, Series A (NPFGC), 5.88%, 11/15/16	860	857,773
Pennsylvania Higher Educational Facilities Authority, Refunding RB, Allegheny Delaware Valley Obligation, Series A (NPFGC), 5.88%, 11/15/21	3,010	2,875,423
Philadelphia Authority for Industrial Development, RB, Commercial Development, AMT, 7.75%, 12/01/17	5,000	4,999,200
Municipal Bonds	Par (000)	Value
Pennsylvania (concluded)		
Philadelphia Authority for Industrial Development, RB, Subordinate, Air Cargo, Series A, AMT, 7.50%, 1/01/25	\$ 2,270	\$ 2,123,698
		<u>26,243,427</u>
Puerto Rico 1.3%		
Puerto Rico Public Buildings Authority, Refunding RB, Series Q, 5.63%, 7/01/39	1,650	1,575,849
Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44	1,650	1,760,814
		<u>3,336,663</u>
Rhode Island 0.8%		
Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35	2,495	2,131,054
South Carolina 0.6%		
Connector 2000 Association Inc., RB, CAB, Senior Series B, 8.00%, 1/01/14 (a)(b)(d)	1,485	285,120
South Carolina Jobs EDA, Refunding RB, Palmetto Health, 5.50%, 8/01/26	975	966,449
South Carolina Jobs EDA, Refunding RB, Palmetto Health, 5.75%, 8/01/39	390	377,633
		<u>1,629,202</u>
Tennessee 0.5%		
Knox County Health Educational & Housing Facilities Board Tennessee, Refunding RB, Covenant, Series A, (AGM), 4.68%, 1/01/40 (d)	6,785	1,028,335
Shelby County Health Educational & Housing Facilities Board, RB, Village at Germantown, 6.25%, 12/01/34	355	297,827

1,326,162

Texas 9.1%

Bexar County Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 (c)	2,985	2,984,821
Brazos River Authority, Refunding RB, TXU Electric Co. Project, Series C, AMT, 5.75%, 5/01/36	2,885	2,712,419
Brazos River Authority, Refunding RB, Texas Utility Co., Series, AMT, 7.70%, 4/01/33	2,550	1,657,959
City of Houston Texas, RB, Special Facilities, Continental Airlines, Series E, AMT, 6.75%, 7/01/21	2,685	2,563,692
Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, B, 7.13%, 12/01/31	1,500	1,682,055
La Vernia Higher Education Finance Corp., RB, KIPP Inc., 6.38%, 8/15/44	860	876,263

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Texas (concluded)		
Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29	\$ 1,240	\$ 1,339,646
North Texas Tollway Authority, RB, Toll, Second Tier, Series F, 6.13%, 1/01/31	2,775	2,901,401
Tarrant County Cultural Education Facilities Finance Corp., RB, CC Young Memorial Home, Series A, 8.00%, 2/15/38	1,035	1,011,454
Tarrant County Cultural Education Facilities Finance Corp., RB, Senior Living Center Project, Series A, 8.25%, 11/15/44	2,490	2,412,212
Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien, Note Mobility, 6.88%, 12/31/39	2,330	2,425,460
Texas State Public Finance Authority, Refunding, ERB, KIPP Inc., Series A (ACA), 5.00%, 2/15/28	1,000	903,940
		<u>23,471,322</u>
Utah 0.6%		
County of Carbon Utah, Refunding RB, Laidlaw Environmental, Series A, AMT, 7.45%, 7/01/17	1,660	1,662,540
Virgin Islands 1.3%		
United States Virgin Islands, Refunding RB, Senior Secured, Hovensa Coker Project, AMT, 6.50%, 7/01/21	3,000	3,033,870
Virgin Islands Public Finance Authority, RB, Senior Lien, Capital Projects, Series A-1, 5.00%, 10/01/39	500	444,280
		<u>3,478,150</u>
Virginia 1.5%		
Dulles Town Center Community Development Authority, Special Assessment Bonds, Dulles Town Center Project, 6.25%, 3/01/26	1,410	1,317,772
Fairfax County EDA, Refunding RB, Goodwin House, Inc., 5.13%,	750	684,435

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10/01/37		
Fairfax County EDA, Refunding RB, Goodwin House, Inc., 5.13%, 10/01/42	450	405,076
Lexington IDA, Refunding MRB, Kendal at Lexington, Series A, 5.38%, 1/01/28	540	440,775
Tobacco Settlement Financing Corp. Virginia, Refunding RB, Senior Series B1, 5.00%, 6/01/47	1,320	920,159
		3,768,217

Municipal Bonds	Par (000)	Value
Wisconsin 1.7%		
Wisconsin Health & Educational Facilities Authority, RB, New Castle Place Project, Series A, 7.00%, 12/01/31	\$ 1,855	\$ 1,759,653
Wisconsin Health & Educational Facilities Authority, RB, Wheaton Franciscan Healthcare, 5.25%, 8/15/34	2,070	1,797,878
Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A, 7.25%, 9/15/29	250	254,035
Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A, 7.63%, 9/15/39	505	516,913
		4,328,479
Wyoming 1.3%		
County of Sweetwater Wyoming, Refunding RB, FMC Corp. Project, AMT, 5.60%, 12/01/35	3,600	3,307,608
Total Municipal Bonds 96.6%		250,129,210

**Municipal Bonds Transferred to Tender
Option Bond Trusts (i)**

District of Columbia 1.7%		
District of Columbia Water & Sewer Authority, RB, Series A, 6.00%, 10/01/35	3,951	4,410,979
Florida 3.4%		
County of Miami-Dade, Florida, RB, Miami International Airport, Series A,	8,870	8,774,470

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AMT (AGC), 5.25%, 10/01/33

Virginia 3.4%		
Virginia HDA, RB, Sub-Series H-1 (NPFGC), 5.38%, 7/01/36	8,690	8,756,392

Total Municipal Bonds Transferred to Tender Option Bond Trusts 8.5%		21,941,841
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Total Long-Term Investments (Cost \$283,904,813) 105.1%		272,071,051
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Short-Term Securities	Shares	
FFI Institutional Tax-Exempt Fund, 0.16% (j)(k)	3,563,851	3,563,851
Total Short-Term Securities (Cost \$3,563,851) 1.4%		3,563,851

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)
(Percentages shown are based on Net Assets)

	Value
Total Investments	
(Cost \$287,468,664*) 106.5%	\$ 275,634,902
Liabilities in Excess of Other Assets (2.3)%	(5,924,245)
Liability for Trust Certificates, Including Interest Expense and Fees Payable (4.2)%	(10,764,069)
Net Assets 100.0%	\$ 258,946,588

* The cost and unrealized appreciation (depreciation) of investments as of January 31, 2010, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$ 276,730,515
Gross unrealized appreciation	\$ 11,405,860
Gross unrealized depreciation	(23,257,119)
Net unrealized depreciation	\$ (11,851,259)

- (a) Issuer filed for bankruptcy and/or is in default of interest payments.
- (b) Non-income producing security.
- (c) When-issued security. Unsettled when-issued security transactions were as follows:

Counterparty	Value	Unrealized Appreciation (Depreciation)
B.C. Ziegler	\$ 1,347,436	
Raymond C. Forbes	2,985,000	\$ (179)
Stone & Youngberg	2,340,000	889

- (d) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (e) Security exempt from registration under Rule 144A of the Securities Act of 1933. These securities may be resold in transactions exempt from registration to qualified institutional investors.

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- (f) Security represents a beneficial interest in a trust. The collateral deposited into the trust is federally tax-exempt revenue bonds issued by various state or local governments; or their respective agencies or authorities. The security is subject to remarketing prior to its stated maturity and is subject
- (g) Security is perpetual in nature and has no stated maturity date.
- (h) 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.
- (i) 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.
- (j) 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	\$ 1,562,317	\$ 3,395

- (k) Represents the current yield as of report date.

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 assets and liabilities

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 methodologies 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 the semi-annual report.

The following table summarizes the inputs used as of January 31, 2010 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Investments in Securities
	Assets
Level 1 - Short-Term Securities	\$ 3,563,851
Level 2 - Long-Term Investments ¹	272,071,051
Level 3	
Total	\$ 275,634,902

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¹ See above Schedule of Investments for values in each state or political subdivision.

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2010

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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: March 19, 2010

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: March 19, 2010

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

Date: March 19, 2010