

BLACKROCK MUNIASSETS FUND, INC.
Form N-Q
March 24, 2016

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: John M. Perlowski, 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: 04/30/2016

Date of reporting period: 01/31/2016

Item 1 Schedule of Investments

Schedule of Investments January 31, 2016 (Unaudited)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
Alabama 2.2%		
County of Jefferson Alabama, RB, Limited Obligation School, Series A:		
5.25%, 1/01/17	\$ 895	\$ 903,771
5.25%, 1/01/19	2,000	2,019,600
5.50%, 1/01/21	1,215	1,226,907
County of Jefferson Alabama Sewer, Refunding RB, Sub-Lien, Series D, 6.00%, 10/01/42	3,745	4,359,892
State of Alabama Docks Department, Refunding RB, 6.00%, 10/01/40	2,165	2,549,114
		11,059,284
Alaska 1.2%		
Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A:		
4.63%, 6/01/23	1,275	1,275,485
5.00%, 6/01/32	1,500	1,366,305
5.00%, 6/01/46	4,000	3,380,360
		6,022,150
Arizona 1.5%		
City of Phoenix Arizona IDA, RB:		
Great Hearts Academies Veritas Project, 6.30%, 7/01/42	500	540,260
Great Hearts Academies Veritas Project, 6.40%, 7/01/47	425	460,462
Legacy Traditional Schools Project, Series A, 6.50%, 7/01/34 (a)	570	642,344
Legacy Traditional Schools Project, Series A, 6.75%, 7/01/44 (a)	1,000	1,130,410
City of Phoenix Arizona IDA, Refunding RB (a):		
Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/35	305	321,629
Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/45	855	882,864
Legacy Traditional School Projects, 5.00%, 7/01/35	320	326,010
Legacy Traditional School Projects, 5.00%, 7/01/45	255	252,277
County of Pima Arizona IDA, Refunding RB, Series A, 5.00%, 7/01/46 (a)	290	299,381
	Par	
Municipal Bonds		
Arizona (continued)		
(000)		
Value		
Industrial Development Authority of the City of Phoenix, Refunding RB, Series A, 5.00%, 7/01/35 (a)	\$ 260	\$ 274,381
Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37	1,650	1,980,412
University Medical Center Corp., RB, 6.50%, 7/01/19 (b)	500	592,285
		7,702,715
California 5.0%		
California County Tobacco Securitization Agency, RB, Asset-Backed (c):		
5.60%, 6/01/36	1,285	1,286,555
5.70%, 6/01/46	1,330	1,330,465
California Municipal Finance Authority, RB, Urban Discovery Academy Project (a):		
5.50%, 8/01/34	315	331,374
6.00%, 8/01/44	665	701,661
6.13%, 8/01/49	580	612,631
California School Finance Authority, RB:		
Alliance for College Ready Public School 2023 Union LLC Project, Series A, 6.40%, 7/01/48	1,570	1,794,683
Value Schools, 6.65%, 7/01/33	435	488,857
Value Schools, 6.90%, 7/01/43	975	1,102,705
California Statewide Communities Development Authority, Refunding RB, American Baptist Homes of the West, 6.25%, 10/01/39		
	2,175	2,414,946
California Statewide Financing Authority, RB, Asset-Backed, Tobacco Settlement, Series B, 6.00%, 5/01/43	1,650	1,676,070
City of San Jose California Hotel Tax, RB, Convention Center Expansion & Renovation Project:		
6.50%, 5/01/36	900	1,094,544
6.50%, 5/01/42	2,220	2,680,228
City of Stockton California Public Financing Authority, RB, Delta Water Supply Project, Series A, 6.25%, 10/01/40	375	467,119

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County of Riverside California Transportation Commission, RB, Senior Lien, Series A, 5.75%, 6/01/48	2,885	3,334,079
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JANUARY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
California (continued)		
Golden State Tobacco Securitization Corp., Refunding RB, Asset-Backed, Senior, Series A-1, 5.75%, 6/01/47	\$ 3,980	\$ 3,800,940
Tobacco Securitization Authority of Southern California, Refunding RB:		
Senior Series A1, 5.00%, 6/01/37	900	852,471
Tobacco Settlement, Asset-Backed, Senior Series A-1, 4.75%, 6/01/25	1,490	1,490,343
		25,459,671
Colorado 2.1%		
Castle Oaks Metropolitan District No. 3, GO, 6.25%, 12/01/44	500	506,120
Colorado Health Facilities Authority, Refunding RB, Series A:		
6.13%, 12/01/45	335	342,289
6.25%, 12/01/50	1,115	1,139,530
Copperleaf Metropolitan District No 2, GO, Refunding, 5.75%, 12/01/45	720	757,325
Foothills Metropolitan District, Special Assessment Bonds, 6.00%, 12/01/38	5,985	6,445,127
Regional Transportation District, RB, Denver Transit Partners Eagle P3 Project, 6.00%, 1/15/34	1,500	1,695,930
		10,886,321
Connecticut 0.9%		
Mohegan Tribal Finance Authority, RB, 7.00%, 2/01/45 (a)	1,430	1,424,709
Mohegan Tribe of Indians of Connecticut, RB, Series A, 6.75%, 2/01/45 (a)	1,420	1,451,950
Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, Series C, 6.25%, 2/01/30 (a)	1,835	1,832,615
		4,709,274
Delaware 0.7%		
County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Power LLC Project, 6.00%, 10/01/40	1,000	1,085,160
	Par	
Municipal Bonds		
	(000)	Value
Delaware (continued)		
Delaware State EDA, RB, Exempt Facilities, Indian River Power LLC Project, 5.38%, 10/01/45	\$ 2,280	\$ 2,364,132
		3,449,292
District of Columbia 0.5%		
District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33	2,225	2,764,852
Florida 10.4%		
Boggy Creek Improvement District, Refunding RB, Special Assessment Bonds, 5.13%, 5/01/43	1,570	1,639,943
Capital Trust Agency, Inc., RB, Silver Creek St.:		
1st Mortgage, Augustine Project, 8.25%, 1/01/44	515	438,600
1st Mortgage, Augustine Project, 8.25%, 1/01/49	1,105	941,128
5.75%, 1/01/50	655	654,935
County of Collier Florida IDA, Refunding RB, Arlington of Naples Project, Series A, 8.13%, 5/15/44 (a)	2,510	2,986,197
County of Miami-Dade Florida IDA, RB, Series A:		
5.00%, 6/01/35	1,460	1,545,906
5.00%, 6/01/40	2,000	2,087,860
5.00%, 6/01/48	2,815	2,923,377
County of Palm Beach Florida Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/33	3,500	3,879,610
Florida Development Finance Corp., RB, Renaissance Charter School, Series A:		
5.75%, 6/15/29	690	713,094
6.00%, 6/15/34	835	865,503
6.13%, 6/15/44	3,220	3,301,273
Greenway Improvement District, RB, Special Assessment Bonds, 5.13%, 5/01/43	1,970	2,057,763
Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33	410	411,476
Jacksonville Economic Development Commission, RB, Gerdau Ameristeel U.S., Inc., AMT, 5.30%, 5/01/37	4,500	4,506,975

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BLACKROCK MUNIASSETS FUND, INC.

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Florida (continued)		
Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 (a)	\$ 535	\$ 571,690
Lakewood Ranch Stewardship District, Refunding, Special Assessment Bonds, Lakewood Center & New Sector Projects:		
4.00%, 5/01/21 (d)	200	202,346
4.25%, 5/01/26 (d)	160	159,990
5.00%, 5/01/36 (d)	460	463,634
8.00%, 5/01/40	1,485	1,844,251
5.13%, 5/01/46 (d)	915	920,719
Mid-Bay Bridge Authority, RB, Springing Lien, Series A, 7.25%, 10/01/21 (b)	4,550	6,010,959
Midtown Miami Community Development District, Refunding, Special Assessment Bonds:		
Series A, 5.00%, 5/01/37	845	896,613
Series B, 5.00%, 5/01/37	495	525,235
Palm Beach County Health Facilities Authority, Refunding RB, Series A, 7.25%, 6/01/34	500	600,560
Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 (e)(f)	4,358	1,655,954
Tampa Palms Open Space and Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18	835	836,253
Tolomato Community Development District, Refunding, Special Assessment Bonds:		
Convertible CAB, Series A2, 0.00%, 5/01/39 (c)	250	200,233
Convertible CAB, Series A3, 0.00%, 5/01/40 (c)	585	350,222
Convertible CAB, Series A4, 0.00%, 5/01/40 (c)	305	135,213
Series 2, 0.00%, 5/01/40 (c)	805	420,419
Series A1, 6.65%, 5/01/40	910	921,939
Tolomato Community Development District:		
Series 1, 0.00%, 5/01/40 (c)	1,305	805,707
Series 1, 6.65%, 5/01/40 (e)(f)	50	51,105
Series 3, 6.61%, 5/01/40 (e)(f)	875	9
Series 3, 6.65%, 5/01/40 (e)(f)	710	7
	Par	
	(000)	Value
Municipal Bonds		
Florida (continued)		
Village Community Development District No. 9, Special Assessment Bonds:		
6.75%, 5/01/31	\$ 1,660	\$ 2,024,553
7.00%, 5/01/41	2,665	3,264,865
5.50%, 5/01/42	1,235	1,420,485
		53,236,601
Georgia 2.3%		
City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31	1,035	1,036,087
County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33	2,615	2,723,758
County of Clayton Georgia Development Authority, Refunding RB, Delta Air Lines, Inc. Project, Series A, 8.75%, 6/01/29	3,365	4,178,556
County of Gainesville & Hall Georgia Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2:		
6.38%, 11/15/29	700	797,307
6.63%, 11/15/39	880	1,000,833
Municipal Electric Authority of Georgia, RB, Plant Vogtle Units 3 & 4 Project, Series A, 5.00%, 7/01/60	1,635	1,811,465
		11,548,006
Guam 0.9%		
Guam Government Waterworks Authority, RB, Water & Wastewater System, 5.50%, 7/01/43	2,415	2,751,941
Territory of Guam, GO, Series A:		
6.00%, 11/15/19	505	560,171
7.00%, 11/15/19 (b)	1,115	1,366,265
		4,678,377

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Illinois 4.7%

City of Chicago Illinois, GO, Series A, 5.50%, 1/01/39	3,600	3,632,652
Illinois Finance Authority, Refunding RB:		
CAB, Clare Water Tower, Series B, 0.00%, 5/15/50 (e)(f)(g)	1,214	12
Clare Water Tower, Series A-7, 6.13%, 5/15/41 (e)(f)	3,129	31

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JANUARY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Illinois (continued)		
Illinois Finance Authority, Refunding RB (continued):		
Friendship Village of Schaumburg, 7.25%, 2/15/45	\$ 4,000	\$ 4,292,480
Lutheran Home & Services Obligated Group, 5.63%, 5/15/42	2,395	2,542,101
Primary Health Care Centers Program, 6.60%, 7/01/24	1,085	1,090,588
Rogers Park Montessori School Project, Series 2014, 6.00%, 2/01/34	365	389,583
Rogers Park Montessori School Project, Series 2014, 6.13%, 2/01/45	860	910,396
Roosevelt University Project, 6.50%, 4/01/44	4,170	4,577,743
Metropolitan Pier & Exposition Authority, RB, McCormick Place Expansion Project, Series A, 5.50%, 6/15/53	2,370	2,639,090
Railsplitter Tobacco Settlement Authority, RB:		
5.50%, 6/01/23	180	213,008
6.00%, 6/01/28	710	854,506
Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34	1,730	1,746,504
Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25	1,260	1,260,756
		24,149,450
Indiana 1.2%		
City of Valparaiso Indiana, RB, Exempt Facilities, Pratt Paper LLC Project, AMT:		
6.75%, 1/01/34	825	1,010,361
7.00%, 1/01/44	2,000	2,465,020
City of Vincennes Indiana, Refunding RB, Southwest Indiana Regional Youth Village, 6.25%, 1/01/24	590	555,715
Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT:		
5.00%, 7/01/44	470	508,376
	Par	
Municipal Bonds		
Indiana (continued)		
Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT (continued):		
5.00%, 7/01/48	\$ 1,555	\$ 1,674,657
		6,214,129
Iowa 3.1%		
Iowa Finance Authority, Refunding RB:		
Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.50%, 12/01/22	2,090	2,197,886
Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.25%, 12/01/25	2,190	2,390,078
Sunrise Retirement Community Project, 5.50%, 9/01/37	1,355	1,388,753
Sunrise Retirement Community Project, 5.75%, 9/01/43	2,115	2,187,735
Iowa Tobacco Settlement Authority, Refunding RB:		
Asset-Backed, CAB, Series B, 5.60%, 6/01/34	1,200	1,200,816
Asset-Backed, Series C, 5.63%, 6/01/46	1,565	1,557,191
Series C, 5.38%, 6/01/38	4,900	4,730,411
		15,652,870
Kentucky 0.9%		
Kentucky Public Transportation Infrastructure Authority, RB, Downtown Crossing, First Tier, Series A, 5.75%, 7/01/49	4,000	4,555,680
Louisiana 2.9%		
Juban Crossing Economic Development District, Refunding RB, General Infrastructure Project, Series C, 7.00%, 9/15/44 (a)	1,055	1,074,074
Lake Charles Harbor & Terminal District, RB, Series B, AMT (AGM), 5.50%, 1/01/29	250	293,387
Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Project, 6.75%, 11/01/32	5,000	5,407,500

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Louisiana (continued)		
Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, 6.75%, 5/01/41	\$ 1,855	\$ 2,073,074
Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A, 5.25%, 5/15/35	5,570	6,238,846
		15,086,881
Maine 0.7%		
Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41	2,955	3,362,908
Maryland 2.0%		
County of Frederick Maryland, RB, Jefferson Technology Park Project, Series B, 7.13%, 7/01/43	2,840	3,223,230
Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35	3,615	3,960,485
Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25	3,085	2,950,587
		10,134,302
Massachusetts 1.9%		
Massachusetts Development Finance Agency, RB:		
Boston Medical Center, Series D, 4.00%, 7/01/45	1,295	1,325,640
Boston Medical Center, Series D, 5.00%, 7/01/44	2,905	3,234,834
Foxborough Regional Charter School, Series A, 7.00%, 7/01/42	1,025	1,158,660
North Hill Communities Issue, Series A, 6.50%, 11/15/43 (a)	2,020	2,212,061
Massachusetts Development Finance Agency, Refunding RB, Tufts Medical Center, Series I, 6.75%, 1/01/36	1,490	1,763,340
		9,694,535
Michigan 0.9%		
City of Detroit Michigan, GO, Financial Recovery (h):		
Series B-1, 4.00%, 4/01/44	315	157,424
Series B-2, 4.00%, 4/01/44	100	46,714
	Par	
Municipal Bonds		
Michigan (continued)		
City of Detroit Michigan Sewage Disposal System, Refunding RB, Senior Lien, Series A, 5.25%, 7/01/39	\$ 2,785	\$ 3,096,920
Michigan Finance Authority, RB, Detroit Water & Sewage Disposal System, Senior Lien, Series 2014 C-2, AMT, 5.00%, 7/01/44	415	441,672
Michigan Finance Authority, Refunding RB, Detroit Water & Sewage Department Project, Senior Lien, Series C-1, 5.00%, 7/01/44	920	996,535
		4,739,265
Minnesota 0.7%		
City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/18 (b)	1,785	2,072,224
City of Rochester Minnesota, RB, Health Care And Facility Homestead Rochester Incorporate, 5.00%, 12/01/49	1,335	1,380,030
		3,452,254
Missouri 1.2%		
Health & Educational Facilities Authority of the State of Missouri, RB:		
5.00%, 2/01/36	370	411,884
5.00%, 2/01/46	670	734,648
Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39	2,315	2,629,053
Lees Summit Industrial Development Authority, RB, John Knox Obligated Group, 5.25%, 8/15/39	2,235	2,322,232
		6,097,817
New Jersey 4.6%		
Casino Reinvestment Development Authority, Refunding RB:		
5.25%, 11/01/39	1,065	1,108,899
5.25%, 11/01/44	770	796,141
County of Essex New Jersey Improvement Authority, RB, AMT, 5.25%, 7/01/45 (a)	1,150	1,194,942
New Jersey EDA, RB:		

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Kapkowski Road Landfill Project, Series B, AMT, 6.50%, 4/01/31	2,250	2,703,960
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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
New Jersey (continued)		
New Jersey EDA, RB (continued):		
Private Activity Bond, The Goethals Bridge Replacement Project, AMT, 5.38%, 1/01/43	\$ 2,155	\$ 2,402,416
Team Academy Charter School Project, 6.00%, 10/01/43	1,530	1,733,597
New Jersey EDA, Refunding RB, Greater Brunswick Charter School, Inc. Project, Series A, 6.00%, 8/01/49 (a)	500	519,390
New Jersey Health Care Facilities Financing Authority, Refunding RB:		
St. Barnabas Health Care System, Series A, 5.63%, 7/01/37	2,650	3,083,487
St. Joseph's Healthcare System, 6.63%, 7/01/38	4,090	4,518,100
New Jersey Transportation Trust Fund Authority, RB, Transportation Program, Series AA, 5.25%, 6/15/41	1,140	1,231,018
Tobacco Settlement Financing Corp., New Jersey, Refunding RB, Series 1A:		
5.00%, 6/01/29	3,735	3,529,463
5.00%, 6/01/41	1,070	893,675
		23,715,088
New Mexico 0.6%		
New Mexico Hospital Equipment Loan Council, Refunding RB, Gerald Champion Regional Medical Center Project, 5.50%, 7/01/42	2,970	3,164,624
New York 7.4%		
City of New York New York Industrial Development Agency, ARB, American Airlines, Inc., JFK International Airport Project, AMT, 8.00%, 8/01/28 (h)		
	1,765	1,842,572
City of New York New York Industrial Development Agency, RB, Special Needs Facilities Pooled Program, Series C-1:		
6.50%, 7/01/24	610	611,336
6.63%, 7/01/29	1,100	1,102,530
Counties of New York Tobacco Trust IV, Refunding RB, Settlement Pass-Through Turbo, Series A, 6.25%, 6/01/41 (a)	5,400	5,640,462
	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
County of Dutchess New York Industrial Development Agency, Refunding RB, Bard College Civic Facility, 5.00%, 8/01/46		
	\$ 3,315	\$ 3,155,780
County of Westchester New York Healthcare Corp., RB, Senior Lien, Series A, 5.00%, 11/01/44	1,354	1,521,479
Erie Tobacco Asset Securitization Corp., Refunding RB, Asset-Backed, Series A, 5.00%, 6/01/45	2,890	2,811,768
Metropolitan Transportation Authority, RB, Series C, 6.50%, 11/15/28	2,000	2,315,320
New York Liberty Development Corp., Refunding RB:		
2nd Priority, Bank of America Tower at One Bryant Park Project, Class 3, 6.38%, 7/15/49	1,270	1,434,262
3 World Trade Center Project, Class 1, 5.00%, 11/15/44 (a)	5,020	5,331,441
3 World Trade Center Project, Class 2, 5.15%, 11/15/34 (a)	455	481,677
3 World Trade Center Project, Class 2, 5.38%, 11/15/40 (a)	1,080	1,152,781
3 World Trade Center Project, Class 3, 7.25%, 11/15/44 (a)	1,565	1,897,422
Niagara Area Development Corp., Refunding RB, Solid Waste Disposal Facility, Covanta Energy Project, Series A, AMT, 5.25%, 11/01/42 (a)	1,335	1,347,442
Port Authority of New York & New Jersey, ARB, Special Project, JFK International Air Terminal LLC Project, Series 8, 6.00%, 12/01/36	1,340	1,569,113
TSASC, Inc., Refunding RB, Series 1, 5.00%, 6/01/34	1,135	1,092,199

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
Westchester Tobacco Asset Securitization, Refunding RB, 5.13%, 6/01/45	\$ 4,800	\$ 4,778,016
		38,085,600
North Carolina 1.5%		
North Carolina Medical Care Commission, Refunding RB, 1st Mortgage, Series A:		
Deerfield Project, 6.13%, 11/01/38	4,565	5,007,896
Retirement Facilities Whitestone Project, 7.75%, 3/01/31	1,000	1,150,950
Retirement Facilities Whitestone Project, 7.75%, 3/01/41	1,420	1,631,211
		7,790,057
Ohio 2.1%		
Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Series A-2:		
Senior Turbo Term, 5.88%, 6/01/47	2,685	2,362,827
5.75%, 6/01/34	6,745	5,946,662
6.00%, 6/01/42	3,040	2,709,552
		11,019,041
Oklahoma 0.3%		
Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32	1,305	1,384,148
Oregon 0.8%		
Hospital Facilities Authority of Multnomah County Oregon, Refunding RB, Mirabella at South Waterfront, 5.50%, 10/01/49		
	1,765	1,931,157
Polk County Hospital Facility Authority, RB, Dallas Retirement Village Project, Series A:		
5.13%, 7/01/35	620	630,168
5.38%, 7/01/45	1,435	1,458,261
		4,019,586
Pennsylvania 4.3%		
Allentown Neighborhood Improvement Zone Development Authority, Refunding RB, Series A, 5.00%, 5/01/42		
	4,170	4,426,955
	Par	
	(000)	Value
Municipal Bonds		
Pennsylvania (continued)		
City of Philadelphia Pennsylvania Hospitals & Higher Education Facilities Authority, RB, Temple University Health System, Series A, 5.63%, 7/01/36		
	\$ 2,000	\$ 2,174,140
County of Cumberland Pennsylvania Municipal Authority, Refunding RB, Diakon Lutheran:		
6.38%, 1/01/19 (b)	5,550	6,412,193
6.38%, 1/01/39	615	702,299
County of Lancaster Pennsylvania Hospital Authority, Refunding RB, Brethren Village Project, Series A, 6.25%, 7/01/26		
	1,160	1,200,983
County of Lehigh Pennsylvania General Purpose Authority, Refunding RB, Bible Fellowship Church Homes, 5.13%, 7/01/32		
	1,800	1,887,390
County of Northampton Pennsylvania IDA, Route 33 Project, Tax Allocation Bond, 7.00%, 7/01/32		
	2,110	2,315,577
Pennsylvania Economic Development Financing Authority, Refunding RB, National Gypson Co., AMT, 5.50%, 11/01/44		
	2,710	2,828,346
		21,947,883
Puerto Rico 0.2%		
Children s Trust Fund, Refunding RB, Series A, 0.00%, 5/15/50 (g)		
	3,450	286,902
Commonwealth of Puerto Rico Aqueduct & Sewer Authority, RB, Series A, 6.00%, 7/01/44		
	530	365,689
Commonwealth of Puerto Rico, Refunding RB, Aqueduct & Sewer Authority, Senior Lien, Series A, 6.00%, 7/01/38		
	325	225,885
		878,476
Rhode Island 2.1%		
Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 (e)(f)	4,190	1,042,849

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Tobacco Settlement Financing Corp., Refunding RB:

Series A, 5.00%, 6/01/40	980	1,048,600
Series B, 4.50%, 6/01/45	5,055	5,124,051

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Rhode Island (continued)		
Tobacco Settlement Financing Corp., Refunding RB (continued):		
Series B, 5.00%, 6/01/50	\$ 3,330	\$ 3,453,044
		10,668,544
Texas 10.6%		
Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33 (e)(f)	5,080	151,892
Central Texas Regional Mobility Authority, Refunding RB:		
CAB, 0.00%, 1/01/28 (g)	1,000	645,160
CAB, 0.00%, 1/01/29 (g)	2,000	1,235,880
CAB, 0.00%, 1/01/30 (g)	1,170	691,809
CAB, 0.00%, 1/01/33 (g)	3,690	1,902,859
CAB, 0.00%, 1/01/34 (g)	4,000	1,942,200
Senior Lien, 6.25%, 1/01/46	2,210	2,557,147
City of Houston Texas Airport System, Refunding ARB, AMT:		
Special Facilities, Continental Airlines, Inc., Series A, 6.63%, 7/15/38	2,890	3,347,805
United Airlines, Inc. Terminal E Project, 5.00%, 7/01/29	910	990,098
Clifton Higher Education Finance Corp., ERB, Idea Public Schools:		
5.50%, 8/15/31	955	1,062,686
5.75%, 8/15/41	720	807,538
County of Bexar Texas Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45	5,040	5,718,787
County of Harris Texas Cultural Education Facilities Finance Corp., RB, 1st Mortgage, Brazos Presbyterian Homes, Inc. Project, Series B, 7.00%, 1/01/48	475	561,916
County of Matagorda Texas Navigation District No. 1, Refunding RB, Central Power & Light Co., Project, Series A, 6.30%, 11/01/29	2,090	2,387,031
County of Tarrant Texas Cultural Education Facilities Finance Corp., RB, Series A:		
CC Young Memorial Home, 8.00%, 2/15/38	1,745	1,967,802
Senior Living Center Project, 8.25%, 11/15/44	4,200	4,242,882
County of Tarrant Texas Cultural Education Facilities Finance Corp., Refunding RB, Trinity Terrace Project, 5.00%, 10/01/49	865	933,075
	Par	
	(000)	Value
Municipal Bonds		
Texas (continued)		
County of Travis Texas Health Facilities Development Corp., Refunding RB, 7.13%, 1/01/46	\$ 3,080	\$ 3,452,742
La Vernia Higher Education Finance Corp., RB, Kipp, Inc., Series A, 6.38%, 8/15/19 (b)	860	1,020,244
Mesquite Health Facility Development Corp., Refunding RB, 5.13%, 2/15/42	810	852,209
New Hope Cultural Education Facilities Corp., RB, Stephenville LLC Tarleton State University Project:		
5.88%, 4/01/36	1,210	1,372,757
6.00%, 4/01/45	1,845	2,096,381
Newark Higher Education Finance Corp., RB, Series A (a):		
5.50%, 8/15/35	290	298,010
5.75%, 8/15/45	580	591,066
North Texas Education Finance Corp., ERB, Uplift Education, Series A, 5.25%, 12/01/47	1,600	1,700,784
Red River Health Facilities Development Corp., First MRB, Project:		
Eden Home, Inc., 7.25%, 12/15/42	2,895	2,553,303
Wichita Falls Retirement Foundation, 5.13%, 1/01/41	900	931,176
Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien:		
LBJ Infrastructure Group LLC, LBJ Freeway Managed Lanes Project, 7.00%, 6/30/40	3,775	4,557,406
NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39	3,000	3,533,730
		54,106,375
Utah 0.6%		
State of Utah Charter School Finance Authority, Refunding RB, 6.75%, 10/15/43	2,950	3,099,300
Vermont 0.2%		
Vermont EDA, Refunding, MRB, Wake Robin Corp. Project, 5.40%, 5/01/33	770	812,689

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Virginia 3.1%		
County of Fairfax Virginia EDA, Refunding RB, Goodwin House, Inc., 5.13%, 10/01/42	\$ 2,500	\$ 2,595,875
Lower Magnolia Green Community Development Authority, Special Assessment Bonds (a):		
5.00%, 3/01/35	510	518,547
5.00%, 3/01/45	520	525,273
Mosaic District Community Development Authority, Special Assessment, Series A:		
6.63%, 3/01/26	1,485	1,719,036
6.88%, 3/01/36	1,300	1,500,616
Virginia College Building Authority, RB, Marymount University Project, Series B, 5.00%, 7/01/45 (a)	535	548,723
Virginia College Building Authority, Refunding RB, Marymount University Project, Series A (a):		
5.00%, 7/01/35	130	136,369
5.00%, 7/01/45	375	384,619
Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossings OpCo LLC Project, AMT, 6.00%, 1/01/37	6,805	7,864,606
		15,793,664
Washington 0.8%		
County of King Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40		
	1,455	1,602,202
Greater Wenatchee Regional Events Center Public Facilities District, Refunding RB, Series A, 5.50%, 9/01/42		
	1,495	1,577,180
Washington State Housing Finance Commission, Refunding RB (a):		
5.75%, 1/01/35	315	320,478
6.00%, 1/01/45	850	864,620
		4,364,480
Wisconsin 1.1%		
Public Finance Authority, RB, Series A:		
4.75%, 12/01/35	775	784,067
5.00%, 12/01/45	1,875	1,901,081
5.15%, 12/01/50	1,170	1,186,696
	Par	
Municipal Bonds		
	(000)	Value
Wisconsin (continued)		
Wisconsin Health & Educational Facilities Authority, Refunding RB, St. Johns Communities, Inc., Series A (b):		
7.25%, 9/15/19	\$ 425	\$ 511,352
7.63%, 9/15/19	855	1,051,599
		5,434,795
Total Municipal Bonds 88.2%		450,940,984
Municipal Bonds Transferred to Tender Option Bond Trusts (i)		
Colorado 2.5%		
Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth Health System, Series A, 5.00%, 1/01/40		
	11,468	12,714,690
Florida 3.2%		
County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33		
	15,000	16,439,700
Illinois 2.8%		
Illinois Finance Authority, RB, The Carle Foundation, Series A (AGM), 6.00%, 8/15/41		
	7,180	8,547,144
State of Illinois Toll Highway Authority, RB, Senior Priority, Series A, 5.00%, 1/01/40		
	5,056	5,817,579

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		14,364,723
New York 13.6%		
City of New York New York Housing Development Corp., RB, M/F Housing, Series D-1, Class B, 4.25%, 11/01/45	8,996	9,279,570
City of New York New York Municipal Water Finance Authority, Refunding RB, Water & Sewer System, 2nd General Resolution:		
Fiscal 2013, Series CC, 5.00%, 6/15/47	14,181	16,216,641
Series HH, 5.00%, 6/15/31 (j)	8,610	10,076,886
Hudson Yards Infrastructure Corp., RB, Fiscal 2012, Series A, 5.75%, 2/15/47 (j)	4,520	5,261,990
New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated Bonds, 5.25%, 12/15/43	18,104	21,046,374

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2016

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds Transferred to Tender Option Bond Trusts (i)		
New York (continued)		
New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 (j)	\$ 6,600	\$ 7,719,489
		69,600,950
Washington 1.8%		
City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40	7,966	9,176,132
Total Municipal Bonds Transferred to		
Tender Option Bond Trusts 23.9%		122,296,195
Total Long-Term Investments		
(Cost \$534,002,724) 112.1%		573,237,179
Short-Term Securities	Shares	Value
BlackRock Liquidity Funds, MuniCash, 0.02% (k)(l)	3,410,267	\$ 3,410,267
Total Short-Term Securities		
(Cost \$3,410,267) 0.7%		3,410,267
Total Investments (Cost \$537,412,991*) 112.8%		576,647,446
Other Assets Less Liabilities 0.1%		729,260
Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (12.9)%		(66,106,813)
Net Assets Applicable to Common Shares 100.0%		\$ 511,269,893

* As of January 31, 2016, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

Tax cost	\$ 471,006,585
Gross unrealized appreciation	\$ 55,950,912
Gross unrealized depreciation	(16,396,574)
Net unrealized appreciation	\$ 39,554,338

Notes to Schedule of Investments

- (a) Security exempt from registration pursuant to Rule 144A under the Securities Act of 1933, as amended. These securities may be resold in transactions exempt from registration to qualified institutional investors.
- (b) U.S. 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.

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- (c) Step-up bond that pays an initial coupon rate for the first period and then a higher coupon rate for the following periods. Rate as of period end.

- (d) When-issued security.

- (e) Issuer filed for bankruptcy and/or is in default of interest payments.

- (f) Non-income producing security.

- (g) Zero-coupon bond.

- (h) Variable rate security. Rate as of period end.

- (i) Represent bonds transferred to a TOB Trust in exchange of cash and residual certificates received by the Fund. These bonds serve as collateral in a secured borrowing.

- (j) All or a portion of security is subject to a recourse agreement. The aggregate maximum potential amount the Fund could ultimately be required to pay under the agreements, which expire between February 15, 2019 to November 15, 2017, is \$ 11,849,809.

- (k) During the period ended January 31, 2016, investments in issuers considered to be affiliates of the Fund for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

Affiliate	Shares Held at April 30, 2015	Net Activity	Shares Held at January 31, 2016	Income
BlackRock Liquidity Funds, MuniCash		3,410,267	3,410,267	
FFI Institutional Tax-Exempt Fund	961,095	(961,095)		\$ 293

- (l) Current yield as of period end.

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

Derivative Financial Instruments Outstanding as of Period End

Financial Futures Contracts

Contracts Short	Issue	Expiration	Notional Value	Unrealized Depreciation
(29)	5-Year U.S. Treasury Note	March 2016	\$3,499,484	\$ (48,794)
(38)	10-Year U.S. Treasury Note	March 2016	\$4,923,969	(103,391)
(18)	Long U.S. Treasury Bond	March 2016	\$2,898,563	(101,631)
(5)	Ultra U.S. Treasury Bond	March 2016	\$830,937	(29,850)
Total				\$ (283,666)

Portfolio Abbreviations

AGC	Assured Guarantee Corp.	EDA	Economic Development Authority	IDA	Industrial Development Authority
AGM	Assured Guaranty Municipal Corp.	EDC	Economic Development Corp.	M/F	Multi-Family
AMT	Alternative Minimum Tax (subject to)	ERB	Education Revenue Bonds	MRB	Mortgage Revenue Bonds
ARB	Airport Revenue Bonds	GO	General Obligation Bonds	RB	Revenue Bonds
CAB	Capital Appreciation Bonds				

Fair Value Hierarchy as of Period End

Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs to valuation techniques are categorized into a fair value hierarchy consisting of three broad levels for financial reporting purposes as follows:

Level 1 unadjusted price quotations in active markets/exchanges for identical assets or liabilities that the Fund has the ability to access

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 and derivative financial instruments)

The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). Accordingly, the degree of judgment exercised in determining fair value is greatest for instruments categorized in Level 3. The inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the fair value hierarchy classification is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The significant unobservable inputs used by the Global Valuation Committee in determining the price for Fair Valued Investments are typically categorized as Level 3.

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)

Changes in valuation techniques may result in transfers into or out of an assigned level within the hierarchy. In accordance with the Fund's policy, transfers between different levels of the fair value hierarchy are deemed to have occurred as of the beginning of the reporting period. The categorization of a value determined for investments and derivative financial instruments is based on the pricing transparency of the investments and derivative financial instruments and is not necessarily an indication of the risks associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and derivative financial instruments, refer to the Fund's most recent financial statements as contained in its semi-annual report.

The following tables summarize the Fund's investments and derivative financial instruments categorized in the disclosure hierarchy:

	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Long-Term Investments ¹		\$ 573,237,179		\$ 573,237,179
Short-Term Securities	\$ 3,410,267			3,410,267
Total	\$ 3,410,267	\$ 573,237,179		\$ 576,647,446

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

	Level 1	Level 2	Level 3	Total
Derivative Financial Instruments ¹				
Liabilities:				
Interest rate contracts		\$ (283,666)		\$ (283,666)

¹ Derivative financial instruments are financial futures contracts, which are valued at the unrealized appreciation (depreciation) on the instrument.

The Fund may hold assets and/or liabilities in which the fair value approximates the carrying amount for financial reporting purposes. As of period end, such assets and/or liabilities are categorized within the disclosure hierarchy as follows:

	Level 1	Level 2	Level 3	Total
Assets:				
Cash	\$ 64			\$ 64
Cash pledged for financial futures contracts	173,950			173,950
Liabilities:				
TOB Trust Certificates		\$ (66,086,523)		(66,086,523)
Total	\$ 174,014	\$ (66,086,523)		\$ (65,912,509)

During the period ended January 31, 2016, there were no transfers between levels.

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 13a-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/ John M. Perlowski
John M. Perlowski

Chief Executive Officer (principal
executive officer) of

BlackRock MuniAssets Fund, Inc.

Date: March 22, 2016

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/ John M. Perlowski
John M. Perlowski

Chief Executive Officer (principal
executive officer) of

BlackRock MuniAssets Fund, Inc.

Date: March 22, 2016

By: /s/ Neal J. Andrews
Neal J. Andrews

Chief Financial Officer (principal
financial officer) of

BlackRock MuniAssets Fund, Inc.

Date: March 22, 2016