

BLACKROCK MUNIASSETS FUND, INC.
Form N-Q
March 23, 2017

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: 04/30/2017

Date of reporting period: 01/31/2017

Item 1 Schedule of Investments

Schedule of Investments January 31, 2017 (Unaudited)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
Alabama 2.0%		
County of Jefferson Alabama, RB, Limited Obligation School, Series A:		
5.25%, 1/01/19	\$ 2,000	\$ 2,008,140
5.50%, 1/01/21	1,215	1,219,945
County of Jefferson Alabama Sewer, Refunding RB, Sub-Lien, Series D, 6.00%, 10/01/42	3,745	4,256,605
State of Alabama Docks Department, Refunding RB, 6.00%, 10/01/40	2,165	2,471,066
		9,955,756
Alaska 0.5%		
Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A:		
4.63%, 6/01/23	1,080	1,085,378
5.00%, 6/01/32	1,500	1,400,760
		2,486,138
Arizona 2.0%		
Arizona Industrial Development Authority, Refunding RB, Basis Schools, Inc. Projects, Series A (a)(b):		
5.13%, 7/01/37	960	966,729
5.25%, 7/01/47	1,765	1,774,037
City of Phoenix Arizona IDA, RB:		
Great Hearts Academies - Veritas Project, 6.30%, 7/01/42	500	535,290
Great Hearts Academies - Veritas Project, 6.40%, 7/01/47	425	455,936
Legacy Traditional Schools Project, Series A, 6.50%, 7/01/34 (a)	570	634,729
Legacy Traditional Schools Project, Series A, 6.75%, 7/01/44 (a)	1,000	1,123,550
City of Phoenix Arizona IDA, Refunding RB (a):		
Basis Schools, Inc. Projects, 5.00%, 7/01/35	305	304,988
Basis Schools, Inc. Projects, 5.00%, 7/01/45	855	837,182
Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/35	260	259,990
Basis Schools, Inc. Projects, Series A, 5.00%, 7/01/46	290	283,434
	Par (000)	Value
Municipal Bonds		
Arizona (continued)		
City of Phoenix Arizona IDA, Refunding RB (a) (continued):		
Legacy Traditional School Projects, 5.00%, 7/01/35	\$ 320	\$ 315,065
Legacy Traditional School Projects, 5.00%, 7/01/45	255	243,459
Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/37	1,650	1,864,071
University Medical Center Corp., RB, 6.50%, 7/01/19 (c)	500	561,650
		10,160,110
California 7.9%		
California Municipal Finance Authority, RB, Urban Discovery Academy Project (a):		
5.50%, 8/01/34	315	321,395
6.00%, 8/01/44	665	681,924
6.13%, 8/01/49	580	595,492
California School Finance Authority, RB:		
Alliance for College Ready Public School - 2023 Union LLC Project, Series A, 6.40%, 7/01/48	1,570	1,770,913
Value Schools, 6.65%, 7/01/33	435	482,846
Value Schools, 6.90%, 7/01/43	975	1,090,186
California Statewide Communities Development Authority, RB, Loma Linda University Medical Center, Series A (a):		
5.00%, 12/01/46	920	940,599
5.25%, 12/01/56	2,055	2,114,431
California Statewide Communities Development Authority, Refunding RB, American Baptist Homes of the West, 6.25%, 10/01/39		
California Statewide Financing Authority, RB, Asset-Backed, Tobacco Settlement, Series B, 6.00%, 5/01/43	2,175	2,371,098
City & County of San Francisco Redevelopment Agency, Tax Allocation Bonds, Mission Bay South Redevelopment Project, Series D, 0.00%, 8/01/43 (a)(d)	1,650	1,658,217
City of San Jose California Hotel Tax, RB, Convention Center Expansion & Renovation Project:	1,500	295,455

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6.50%, 5/01/36	900	1,044,657
6.50%, 5/01/42	2,220	2,571,981

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2017

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par (000)	Value
Municipal Bonds		
California (continued)		
City of Stockton California Public Financing Authority, RB, Delta Water Supply Project, Series A, 6.25%, 10/01/40	\$ 375	\$ 444,825
County of California Tobacco Securitization Agency, RB, Asset-Backed, Los Angeles County Securitization Corp., 5.60%, 6/01/36	1,285	1,306,781
County of Los Angeles California Tobacco Securitization Agency, RB, Asset-Backed, Los Angeles County Securitization Corp., 5.70%, 6/01/46	3,600	3,661,056
County of Riverside California Transportation Commission, RB, Senior Lien, Series A, 5.75%, 6/01/48	2,885	3,228,142
County of San Francisco California City & Redevelopment Agency, Tax Allocation Bonds, Mission Bay South Redevelopment Project, 0.00%, 8/01/26 (a)(d)	1,250	717,150
Golden State Tobacco Securitization Corp., Refunding RB, Asset-Backed, Series A-1:		
Senior, 5.75%, 6/01/47	3,980	3,910,111
5.13%, 6/01/47	3,850	3,580,577
Tobacco Securitization Authority of Southern California, Refunding RB, Tobacco Settlement, Asset-Backed, Senior Series A-1:		
4.75%, 6/01/25	1,375	1,388,722
5.00%, 6/01/37	5,580	5,405,848
		39,582,406
Colorado 1.0%		
Castle Oaks Metropolitan District No. 3, GO, 6.25%, 12/01/44	500	512,015
Colorado Health Facilities Authority, Refunding RB, Series A (a):		
6.13%, 12/01/45	335	347,449
6.25%, 12/01/50	1,115	1,157,849
Copperleaf Metropolitan District No. 2, GO, Refunding, 5.75%, 12/01/45	720	732,701
Foothills Metropolitan District, Special Assessment Bonds, 6.00%, 12/01/38	635	649,802
	Par (000)	Value
Municipal Bonds		
Colorado (continued)		
Regional Transportation District, RB, Denver Transit Partners Eagle P3 Project, 6.00%, 1/15/34	\$ 1,500	\$ 1,663,710
		5,063,526
Connecticut 1.0%		
Mohegan Tribal Finance Authority, RB, 7.00%, 2/01/45 (a)	1,430	1,479,950
Mohegan Tribe of Indians of Connecticut, RB, Series A, 6.75%, 2/01/45 (a)	1,420	1,450,104
Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, Series C, 6.25%, 2/01/30 (a)	1,835	1,816,687
		4,746,741
Delaware 0.8%		
County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Power LLC Project, 6.00%, 10/01/40	1,000	1,074,980
State of Delaware EDA, RB, Exempt Facilities, Indian River Power LLC Project, 5.38%, 10/01/45	2,880	2,980,858
		4,055,838
Florida 8.1%		
Boggy Creek Improvement District, Refunding RB, Special Assessment Bonds, 5.13%, 5/01/43	1,535	1,512,006
Capital Trust Agency, Inc., RB, Silver Creek St. Augustine Project, Series A (e)(f):		
1st Mortgage, 8.25%, 1/01/44	515	417,073
1st Mortgage, 8.25%, 1/01/49	1,105	893,238
5.75%, 1/01/50	655	590,784
County of Collier Florida IDA, Refunding RB, Arlington of Naples Project, Series A, 8.13%, 5/15/44 (a)	2,510	2,851,109
County of Palm Beach Florida Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/20 (c)	3,500	4,002,215

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par (000)	Value
Municipal Bonds		
Florida (continued)		
Florida Development Finance Corp., RB, Renaissance Charter School, Series A:		
5.75%, 6/15/29	\$ 690	\$ 691,180
6.00%, 6/15/34	835	836,895
6.13%, 6/15/44	3,180	3,152,620
Greenway Improvement District, RB, Special Assessment Bonds, 5.13%, 5/01/43	1,940	1,925,178
Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33	410	410,226
Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 (a)	295	301,558
Lakewood Ranch Stewardship District, Refunding, Special Assessment Bonds, Lakewood Center & New Sector Projects, 8.00%, 5/01/40	1,485	1,754,364
Lakewood Ranch Stewardship District, Special Assessment Bonds, Village of Lakewood Ranch Sector Projects:		
4.00%, 5/01/21	200	199,990
4.25%, 5/01/26	160	156,398
5.13%, 5/01/46	915	890,322
Mid-Bay Bridge Authority, RB, Springing Lien, Series A, 7.25%, 10/01/21 (c)	4,550	5,675,806
Midtown Miami Community Development District, Refunding, Special Assessment Bonds:		
Series A, 5.00%, 5/01/37	845	864,410
Series B, 5.00%, 5/01/37	495	506,370
Palm Beach County Health Facilities Authority, Refunding RB, Series A, 7.25%, 6/01/34	500	577,430
Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 (e)(f)	4,167	2,749,883
Tampa Palms Open Space and Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18	575	575,512
Tolomato Community Development District, Refunding, Special Assessment Bonds:		
Convertible CAB, Series A2, 0.00%, 5/01/39 (g)	250	198,413
	Par (000)	Value
Municipal Bonds		
Florida (continued)		
Tolomato Community Development District, Refunding, Special Assessment Bonds (continued):		
Convertible CAB, Series A3, 0.00%, 5/01/40 (g)	\$ 585	\$ 346,653
Convertible CAB, Series A4, 0.00%, 5/01/40 (g)	305	133,495
Series 2, 0.00%, 5/01/40 (g)	805	413,231
Series A1, 6.65%, 5/01/40	875	875,009
Tolomato Community Development District:		
Series 1, 0.00%, 5/01/40 (g)	1,305	795,528
Series 1, 6.65%, 5/01/40 (e)(f)	50	50,219
Series 3, 6.61%, 5/01/40 (e)(f)	875	9
Series 3, 6.65%, 5/01/40 (e)(f)	710	7
Village Community Development District No. 9, Special Assessment Bonds:		
6.75%, 5/01/31	1,575	1,818,999
7.00%, 5/01/41	2,575	2,985,738
5.50%, 5/01/42	1,210	1,330,250
		40,482,118
Georgia 1.7%		
County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33	2,575	2,614,732
County of Clayton Georgia Development Authority, Refunding RB, Delta Air Lines, Inc. Project, Series A, 8.75%, 6/01/29	3,365	3,989,712
County of Gainesville & Hall Georgia Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2 (c):		
6.38%, 11/15/19	700	796,509
6.63%, 11/15/19	880	1,007,204
		8,408,157
Illinois 4.2%		
City of Chicago Illinois, GO, Refunding, Project, Series A, 6.00%, 1/01/38 (b)	1,260	1,260,857
Illinois Finance Authority, Refunding RB:		

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Friendship Village of Schaumburg, 7.25%, 2/15/45	4,000	4,166,120
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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):		
Lutheran Home & Services Obligated Group, 5.63%, 5/15/42	\$ 2,395	\$ 2,467,544
Presence Health Network, Series C, 4.00%, 2/15/41	1,525	1,266,345
Primary Health Care Centers Program, 6.60%, 7/01/24	990	993,643
Rogers Park Montessori School Project, Series 2014, 6.00%, 2/01/34	365	377,410
Rogers Park Montessori School Project, Series 2014, 6.13%, 2/01/45	860	885,353
Roosevelt University Project, 6.50%, 4/01/44	4,170	4,293,265
Metropolitan Pier & Exposition Authority, RB, McCormick Place Expansion Project, Series A, 5.50%, 6/15/53	2,370	2,559,458
Railsplitter Tobacco Settlement Authority, RB:		
5.50%, 6/01/23	180	202,876
6.00%, 6/01/28	710	807,206
Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34	1,661	1,615,090
		20,895,167
Indiana 2.1%		
City of Valparaiso Indiana, RB, Exempt Facilities, Pratt Paper LLC Project, AMT:		
6.75%, 1/01/34	825	972,873
7.00%, 1/01/44	2,000	2,381,960
City of Vincennes Indiana, Refunding RB, Southwest Indiana Regional Youth Village Project, 6.25%, 1/01/29 (a)	2,450	2,313,510
County of Allen Indiana, RB, StoryPoint Fort Wayne Project, Series A-1 (a)(b):		
6.63%, 1/15/34	290	287,248
6.75%, 1/15/43	425	421,371
6.88%, 1/15/52	860	849,276
Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT:		
5.00%, 7/01/44	470	486,398
5.00%, 7/01/48	1,555	1,583,192
	Par (000)	Value
Municipal Bonds		
Indiana (continued)		
Town of Chesterton Indiana, RB, StoryPoint Chesterton Project, Series A-1, 6.38%, 1/15/51 (a)	\$ 1,190	\$ 1,152,920
		10,448,748
Iowa 2.7%		
Iowa Finance Authority, Refunding RB:		
Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.50%, 12/01/22	2,090	2,100,450
Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.25%, 12/01/25	2,190	2,186,014
Sunrise Retirement Community Project, 5.50%, 9/01/37	1,355	1,333,618
Sunrise Retirement Community Project, 5.75%, 9/01/43	2,115	2,122,889
Iowa Tobacco Settlement Authority, Refunding RB:		
Asset-Backed, CAB, Series B, 5.60%, 6/01/34	795	794,873
Series C, 5.38%, 6/01/38	4,900	4,684,057
		13,221,901
Kentucky 0.9%		
Kentucky Public Transportation Infrastructure Authority, RB, Downtown Crossing, First Tier, Series A, 5.75%, 7/01/49	4,000	4,376,000
Louisiana 2.8%		
Juban Crossing Economic Development District, Refunding RB, General Infrastructure Project, Series C, 7.00%, 9/15/44 (a)	1,055	973,111
Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Project, 6.75%, 11/01/32	5,000	5,155,500
Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, 6.75%, 5/01/41	1,855	2,048,606

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Louisiana (continued)		
Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A, 5.25%, 5/15/35	\$ 5,570	\$ 6,029,692
		14,206,909
Maine 0.6%		
Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41	2,955	3,199,556
Maryland 2.0%		
County of Frederick Maryland, RB, Jefferson Technology Park Project, Series B, 7.13%, 7/01/43	2,840	3,086,200
Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35	3,615	3,883,956
Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25	3,085	3,044,031
		10,014,187
Massachusetts 1.4%		
Massachusetts Development Finance Agency, RB:		
Boston Medical Center, Series D, 5.00%, 7/01/44	1,905	1,985,962
Foxborough Regional Charter School, Series A, 7.00%, 7/01/42	1,025	1,115,754
North Hill Communities Issue, Series A, 6.50%, 11/15/43 (a)	2,020	2,110,516
Massachusetts Development Finance Agency, Refunding RB, Tufts Medical Center, Series I, 6.75%, 1/01/36	1,490	1,690,852
		6,903,084
Michigan 0.9%		
City of Detroit Michigan Sewage Disposal System, Refunding RB, Senior Lien, Series A, 5.25%, 7/01/39	2,785	3,002,118
Michigan Finance Authority, RB, Detroit Water & Sewage Disposal System, Senior Lien, Series 2014 C-2, AMT, 5.00%, 7/01/44	415	434,401
	Par	
Municipal Bonds		
Michigan (continued)		
Michigan Finance Authority, Refunding RB, Detroit Water & Sewage Department Project, Senior Lien, Series C-1, 5.00%, 7/01/44	\$ 920	\$ 976,332
		4,412,851
Minnesota 0.2%		
City of Rochester Minnesota, RB, Health Care And Facility Homestead Rochester Incorporate, 5.00%, 12/01/49	555	530,880
St. Paul Housing & Redevelopment Authority, Refunding RB, Hmong College Prep Academy Project, Series A:		
5.75%, 9/01/46	195	194,750
6.00%, 9/01/51	290	292,152
		1,017,782
Missouri 1.0%		
Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39	2,315	2,546,569
Lees Summit IDA, RB, John Knox Obligated Group, 5.25%, 8/15/39	2,235	2,315,818
		4,862,387
New Jersey 5.5%		
Casino Reinvestment Development Authority, Refunding RB:		
5.25%, 11/01/39	1,065	1,057,918
5.25%, 11/01/44	770	756,679
County of Essex New Jersey Improvement Authority, RB, AMT, 5.25%, 7/01/45 (a)	1,150	1,132,417
New Jersey EDA, RB:		
Goethals Bridge Replacement Project, AMT, Private Activity Bond, 5.38%, 1/01/43	2,155	2,277,727
Kapkowski Road Landfill Project, Series B, AMT, 6.50%, 4/01/31	2,250	2,528,887
Team Academy Charter School Project, 6.00%, 10/01/43	1,530	1,655,231
New Jersey EDA, Refunding RB:		

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Bancroft Neurohealth Project, 5.00%, 6/01/41	135	129,846
Bancroft Neurohealth Project, Series A, 5.00%, 6/01/36	850	829,362

BLACKROCK MUNIASSETS FUND, INC.

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
New Jersey (continued)		
New Jersey EDA, Refunding RB (continued):		
Greater Brunswick Charter School, Inc. Project, Series A, 6.00%, 8/01/49 (a)	\$ 500	\$ 488,820
New Jersey Health Care Facilities Financing Authority, Refunding RB (c):		
St. Barnabas Health Care System, Series A, 5.63%, 7/01/21	2,650	3,101,798
St. Joseph's Healthcare System, 6.63%, 7/01/18	4,090	4,405,830
New Jersey Transportation Trust Fund Authority, RB, Transportation Program, Series AA, 5.25%, 6/15/41	1,140	1,154,569
Tobacco Settlement Financing Corp. New Jersey, Refunding RB, Series 1A:		
5.00%, 6/01/29	3,735	3,637,853
5.00%, 6/01/41	4,550	4,067,836
		27,224,773
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	3,137,538
New York 8.8%		
Build NYC Resource Corp., RB, Albert Einstein College of Medicine, Inc., 5.50%, 9/01/45 (a)	2,565	2,741,908
Counties of New York Tobacco Trust IV, Refunding RB, Settlement Pass-Through Turbo, Series A:		
6.25%, 6/01/41 (a)	5,300	5,492,920
5.00%, 6/01/42	3,155	2,909,762
5.00%, 6/01/45	1,185	1,085,910
Counties of New York Tobacco Trust VI, Refunding RB, Tobacco Settlement Pass-Through, Series C,		
5.00%, 6/01/51	445	451,671
County of Dutchess New York IDA, Refunding RB, Bard College Civic Facility, Series A-1, 5.00%, 8/01/46	3,315	2,791,064
	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
County of Nassau New York Tobacco Settlement Corp., Refunding RB, Asset-Backed, Series A-3, 5.13%, 6/01/46		
	\$ 750	\$ 702,802
County of Westchester New York Healthcare Corp., RB, Senior Lien, Series A, 5.00%, 11/01/44	1,333	1,404,224
Erie Tobacco Asset Securitization Corp., Refunding RB, Asset-Backed, Series A, 5.00%, 6/01/45	2,890	2,739,864
Metropolitan Transportation Authority, RB, Series C:		
6.50%, 11/15/18 (c)	125	137,010
6.50%, 11/15/18 (c)	1,490	1,633,159
6.50%, 11/15/28	385	420,998
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	1,384,325
3 World Trade Center Project, Class 1, 5.00%, 11/15/44 (a)	4,705	4,900,163
3 World Trade Center Project, Class 2, 5.15%, 11/15/34 (a)	455	483,993
3 World Trade Center Project, Class 2, 5.38%, 11/15/40 (a)	1,080	1,160,968
3 World Trade Center Project, Class 3, 7.25%, 11/15/44 (a)	1,565	1,843,867
New York Transportation Development Corp., Refunding RB, American Airlines, Inc., AMT, 5.00%, 8/01/31	1,195	1,237,446
Niagara Area Development Corp., Refunding RB, Solid Waste Disposal Facility, Covanta Energy Project, Series A, AMT, 5.25%, 11/01/42 (a)	1,335	1,344,225
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	1,511,306
Town of Oyster Bay New York, GO:		
Series A, 3.50%, 6/01/18 (b)	3,035	3,058,855
Series B, 5.25%, 4/07/17	1,500	1,506,840
Refunding Series B, 3.50%, 2/02/18 (b)	505	510,005

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
New York (continued)		
TSASC, Inc., Refunding RB, Series 1, 5.00%, 6/01/34	\$ 2,305	\$ 2,305,530
		43,758,815
North Carolina 1.5%		
North Carolina Medical Care Commission, Refunding RB, 1st Mortgage, Series A:		
Deerfield Project, 6.13%, 11/01/18 (c)	4,565	4,961,653
Retirement Facilities Whitestone Project, 7.75%, 3/01/31	1,000	1,100,960
Retirement Facilities Whitestone Project, 7.75%, 3/01/41	1,420	1,563,363
		7,625,976
Ohio 3.2%		
Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Series A-2:		
Senior Turbo Term, 5.88%, 6/01/47	6,390	5,838,862
5.75%, 6/01/34	6,745	6,119,401
6.00%, 6/01/42	3,040	2,793,274
County of Hamilton Ohio, Refunding RB, Improvement-Life Enriching Communities:		
5.00%, 1/01/46	525	527,604
5.00%, 1/01/51	875	870,713
		16,149,854
Oklahoma 0.1%		
Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32	305	315,050
Oregon 0.8%		
Hospital Facilities Authority of Multnomah County Oregon, Refunding RB, Mirabella at South Waterfront,		
5.50%, 10/01/49	1,765	1,851,079
Polk County Hospital Facility Authority, RB, Dallas Retirement Village Project, Series A:		
5.13%, 7/01/35	620	603,756
	Par	
Municipal Bonds		
Oregon (continued)		
Polk County Hospital Facility Authority, RB, Dallas Retirement Village Project, Series A (continued):		
5.38%, 7/01/45	\$ 1,435	\$ 1,409,299
		3,864,134
Pennsylvania 3.9%		
Allentown Neighborhood Improvement Zone Development Authority, Refunding RB, Series A, 5.00%,		
5/01/42	2,140	2,216,719
City of Philadelphia Pennsylvania Hospitals & Higher Education Facilities Authority, RB, Temple		
University Health System, Series A, 5.63%, 7/01/36	2,000	2,138,320
County of Cumberland Pennsylvania Municipal Authority, Refunding RB, Diakon Lutheran:		
6.38%, 1/01/19 (c)	5,550	6,094,732
6.38%, 1/01/39	615	668,370
County of Lancaster Pennsylvania Hospital Authority, Refunding RB, Brethren Village Project, Series A,		
6.25%, 7/01/26	1,160	1,169,872
County of Lehigh Pennsylvania General Purpose Authority, Refunding RB, Bible Fellowship Church		
Homes, 5.13%, 7/01/32	1,800	1,831,410
County of Northampton Pennsylvania IDA, Route 33 Project, Tax Allocation Bonds, 7.00%, 7/01/32		
Pennsylvania Economic Development Financing Authority, Refunding RB, National Gypsum Co., AMT,	2,110	2,374,552
5.50%, 11/01/44	2,710	2,858,264
		19,352,239
Puerto Rico 1.0%		
Children s Trust Fund, Refunding RB, Tobacco Settlement, Asset-Backed Bonds, Series A, 0.00%, 5/15/50		
(d)	3,450	272,309
Children s Trust Fund Tobacco Settlement, Refunding RB, Asset-Backed Bonds, 5.50%, 5/15/39	635	631,793

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Puerto Rico (continued)		
Commonwealth of Puerto Rico, Refunding, GO, Refunding, Public Improvement, Series A, 5.50%, 7/01/39 (e)(f)	\$ 665	\$ 441,394
Commonwealth of Puerto Rico, GO, Refunding, Series A, 8.00%, 7/01/35 (e)(f)	1,765	1,255,356
Commonwealth of Puerto Rico, GO, Series A, 6.00%, 7/01/38 (e)(f)	750	496,875
Commonwealth of Puerto Rico Aqueduct & Sewer Authority, RB, Senior Lien, Series A, 6.00%, 7/01/44	1,060	825,570
Commonwealth of Puerto Rico Aqueduct & Sewer Authority, Refunding RB, Senior Lien, Series A: 6.13%, 7/01/24	365	295,311
6.00%, 7/01/38	1,150	898,564
		5,117,172
Rhode Island 2.2%		
Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 (e)(f)	4,190	1,038,114
Tobacco Settlement Financing Corp., Refunding RB: Series A, 5.00%, 6/01/35	1,000	1,047,110
Series A, 5.00%, 6/01/40	980	1,019,896
Series B, 4.50%, 6/01/45	5,055	4,776,318
Series B, 5.00%, 6/01/50	3,330	3,336,527
		11,217,965
Texas 11.0%		
Central Texas Regional Mobility Authority, Refunding RB: CAB, 0.00%, 1/01/28 (d)	1,000	642,070
CAB, 0.00%, 1/01/29 (d)	2,000	1,224,460
CAB, 0.00%, 1/01/30 (d)	1,170	683,081
CAB, 0.00%, 1/01/33 (d)	3,690	1,853,745
CAB, 0.00%, 1/01/34 (d)	4,000	1,889,760
Senior Lien, 6.25%, 1/01/21 (c)	2,210	2,597,678
City of Houston Texas Airport System, Refunding ARB, AMT: Special Facilities, Continental Airlines, Inc., Series A, 6.63%, 7/15/38	2,890	3,185,589
United Airlines, Inc. Terminal E Project, 5.00%, 7/01/29	910	954,235
Clifton Higher Education Finance Corp., ERB, Idea Public Schools: 5.50%, 8/15/31	955	1,028,688
	Par	
	(000)	Value
Municipal Bonds		
Texas (continued)		
Clifton Higher Education Finance Corp., ERB, Idea Public Schools (continued): 5.75%, 8/15/41	\$ 720	\$ 771,811
County of Bexar Texas Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/20 (c)	5,040	5,833,296
County of Harris Texas Cultural Education Facilities Finance Corp., RB, 1st Mortgage, Brazos Presbyterian Homes, Inc. Project, Series B, 7.00%, 1/01/23 (c)	475	596,838
County of Matagorda Texas Navigation District No. 1, Refunding RB, Central Power & Light Co., Project, Series A, 6.30%, 11/01/29	2,090	2,287,944
County of Tarrant Texas Cultural Education Facilities Finance Corp., RB, Series A: CC Young Memorial Home, 8.00%, 2/15/38	1,745	1,888,195
Senior Living Center Project, 8.25%, 11/15/44	4,200	4,411,302
County of Tarrant Texas Cultural Education Facilities Finance Corp., Refunding RB, Trinity Terrace Project, 5.00%, 10/01/49	865	879,817
County of Travis Texas Health Facilities Development Corp., Refunding RB, 7.13%, 1/01/46	3,080	3,350,516
Fort Bend County Industrial Development Corp., RB, NRG Energy Inc. Project, Series B, 4.75%, 11/01/42	1,520	1,534,668
Mesquite Health Facility Development Corp., Refunding RB, 5.13%, 2/15/42	810	823,616
Mission Economic Development Corp., RB, Senior Lien, Natgasoline Project, Series B, AMT, 5.75%, 10/01/31 (a)	1,325	1,367,877
New Hope Cultural Education Facilities Corp., RB, Stephenville LLC Tarleton State University Project: 5.88%, 4/01/36	1,210	1,350,324
6.00%, 4/01/45	1,845	2,067,249
Newark Higher Education Finance Corp., RB, Series A (a): 5.50%, 8/15/35	290	291,169

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

	Par	
	(000)	Value
Municipal Bonds		
Texas (continued)		
Newark Higher Education Finance Corp., RB, Series A (a) (continued):		
5.75%, 8/15/45	\$ 580	\$ 586,612
North Texas Education Finance Corp., ERB, Uplift Education, Series A, 5.25%, 12/01/47	1,600	1,665,472
Red River Health Facilities Development Corp., First MRB, Project:		
Eden Home, Inc., 7.25%, 12/15/42 (e)(f)	2,895	2,316,000
Wichita Falls Retirement Foundation, 5.13%, 1/01/41	900	922,338
Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien:		
LBJ Infrastructure Group LLC, 7.00%, 6/30/40	3,775	4,317,354
NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39	3,000	3,392,220
		54,713,924
Utah 0.6%		
State of Utah Charter School Finance Authority, Refunding RB, 6.75%, 10/15/43	2,950	3,040,653
Vermont 0.2%		
Vermont EDA, Refunding, MRB, Wake Robin Corp. Project, 5.40%, 5/01/33	770	802,432
Virginia 2.7%		
County of Fairfax Virginia EDA, Refunding RB, Goodwin House, Inc., 5.13%, 10/01/17 (c)	1,500	1,542,570
Lower Magnolia Green Community Development Authority, Special Assessment Bonds (a):		
5.00%, 3/01/35	500	501,560
5.00%, 3/01/45	510	504,436
Mosaic District Community Development Authority, Special Assessment, Series A:		
6.63%, 3/01/26	1,485	1,640,108
6.88%, 3/01/36	1,300	1,432,769
Tobacco Settlement Financing Corp., Refunding RB, Senior Series B-1, 5.00%, 6/01/47	2,280	1,998,283
	Par	
	(000)	Value
Municipal Bonds		
Virginia (continued)		
Virginia College Building Authority, RB, Marymount University Project, Series B, 5.00%, 7/01/45 (a)	\$ 535	\$ 538,633
Virginia College Building Authority, Refunding RB, Marymount University Project, Series A, 5.00%, 7/01/45 (a)	375	377,546
Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossings OpCo LLC Project, AMT, 6.00%, 1/01/37	4,440	4,973,910
		13,509,815
Washington 0.8%		
County of King Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40	1,455	1,546,389
Greater Wenatchee Regional Events Center Public Facilities District, Refunding RB, Series A, 5.50%, 9/01/42	1,495	1,520,759
Washington State Housing Finance Commission, Refunding RB (a):		
5.75%, 1/01/35	315	304,230
6.00%, 1/01/45	850	815,022
		4,186,400
Wisconsin 0.8%		
Public Finance Authority, RB, Series A:		
5.00%, 12/01/45	1,530	1,539,670
5.15%, 12/01/50	1,170	1,182,823
Wisconsin Health & Educational Facilities Authority, Refunding RB, St. Johns Communities, Inc., Series A (c):		
7.25%, 9/15/19	425	488,916
7.63%, 9/15/19	855	991,808
		4,203,217
Guam 0.3%		
Territory of Guam, GO, Series A:		
6.00%, 11/15/19	390	414,867

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7.00%, 11/15/19 (c)	1,115	1,285,082
Total Municipal Bonds 87.8%		1,699,949
		438,419,268

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2017

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

Municipal Bonds Transferred to	Par	
Tender Option Bond Trusts (h)	(000)	Value
Colorado 2.4%		
Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth Health System, Series A, 5.00%, 1/01/40	\$ 11,468	\$ 12,259,668
Florida 3.2%		
County of Miami-Dade FL Aviation Revenue, RB, Miami International, Series A, AGC: 5.25%, 10/01/18 (c)	3,345	3,527,169
5.25%, 10/01/33	11,655	12,289,731
		15,816,900
Illinois 2.7%		
Illinois Finance Authority, RB, The Carle Foundation, Series A (AGM), 6.00%, 8/15/41	7,180	8,172,491
State of Illinois Toll Highway Authority, RB, Senior Priority, Series A, 5.00%, 1/01/40	5,056	5,558,005
		13,730,496
New York 13.5%		
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	9,090,120
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	15,736,329
Series HH, 5.00%, 6/15/31 (i)	8,610	9,678,070
Hudson Yards Infrastructure Corp., RB, Fiscal 2012, Series A, 5.75%, 2/15/47 (i)	4,520	5,115,587
New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated Bonds, 5.25%, 12/15/43	18,104	20,216,743
Municipal Bonds Transferred to	Par	
Tender Option Bond Trusts (h)	(000)	Value
New York (continued)		
New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 (i)	\$ 6,600	\$ 7,512,051
		67,348,900
Pennsylvania 0.6%		
Pennsylvania Turnpike Commission, RB, Sub Series A, 5.50%, 12/01/42	2,505	2,855,976
Washington 1.8%		
City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40	7,966	8,826,090
Total Municipal Bonds Transferred to		
Tender Option Bond Trusts 24.2%		120,838,030
Total Long-Term Investments		
(Cost \$529,632,378) 112.0%		559,257,298
Short-Term Securities	Shares	
BlackRock Liquidity Funds, MuniCash, Institutional Class, 0.50% (j)(k)	11,240,103	11,241,227
Total Short-Term Securities		
(Cost \$11,240,693) 2.3%		11,241,227
Total Investments		
(Cost \$540,873,071*) 114.3%		570,498,525
Liabilities in Excess of Other Assets (0.7)%		(3,363,820)
Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (13.5)%		(67,470,365)
Loan for TOB Trust Certificates (0.1)%		(398,849)
Net Assets Applicable to Common Shares 100.0%		\$ 499,265,491

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* As of January 31, 2017, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

Tax cost	\$	472,693,210
Gross unrealized appreciation	\$	38,637,663
Gross unrealized depreciation		(8,588,871)
Net unrealized appreciation	\$	30,048,792

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) When-issued security.

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

- (c) 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.
- (d) Zero-coupon bond.
- (e) Non-income producing security.
- (f) Issuer filed for bankruptcy and/or is in default.
- (g) 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.
- (h) 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.
- (i) 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, 2019, is \$11,849,809. See Note 4 of the Notes to Financial Statements for details.
- (j) During the period ended January 31, 2017, investments in issuers considered to be an affiliate of the Fund for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

	Shares Held		Shares Held	Value at		Net Realized	Change in Unrealized Appreciation (Depreciation)
	at April 30, 2016	Net Activity	at January 31, 2017	January 31, 2017	Income		
Affiliate BlackRock Liquidity Funds, MuniCash, Institutional Class	4,296,151	6,943,952	11,240,103	\$ 11,241,227	\$ 9,599	\$ 334	\$ 534

- (k) Current yield as of period end.

Derivative Financial Instruments Outstanding as of Period End

Futures Contracts

Contracts Short	Issue	Expiration	Notional Value	Unrealized Depreciation
(49)	5-Year U.S. Treasury Note	March 2017	\$ 5,775,492	\$ (12,523)
(90)	10-Year U.S. Treasury Note	March 2017	\$ 11,202,188	(54,906)

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(66)	Long U.S. Treasury Bond	March 2017	\$ 9,955,687	(53,784)
(16)	Ultra U.S. Treasury Bond	March 2017	\$ 2,571,000	(25,027)
Total				\$ (146,240)

Portfolio Abbreviations

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

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2017

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

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. Investments classified within Level 3 have significant unobservable inputs used by the BlackRock Global Valuation Methodologies Committee (the Global Valuation Committee) in determining the price for Fair Valued Investments. Level 3 Investments include equity or debt issued by privately-held companies. There may not be a secondary market, and/or there are a limited number of investors. Level 3 investments may also be adjusted to reflect illiquidity and/or non-transferability, with the amount of such discount estimated by the Global Valuation Committee in the absence of market information.

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		\$ 559,257,298		\$ 559,257,298
Short-Term Securities	\$ 11,241,227			11,241,227
Total	\$ 11,241,227	\$ 559,257,298		\$ 570,498,525
Derivative Financial Instruments ²				
Liabilities:				
Interest rate contracts	\$ (146,240)			\$ (146,240)

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

² Derivative financial instruments are futures contracts which are valued at the unrealized appreciation (depreciation) on the instrument.

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)

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
Liabilities:				
TOB Trust Certificates		\$ (67,357,674)		\$ (67,357,674)
Loan for TOB Trust Certificates		(398,849)		(398,849)
Total		\$ (67,756,523)		\$ (67,756,523)

During the period ended January 31, 2017, there were no transfers between levels.

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2017

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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 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 23, 2017

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 23, 2017

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

Date: March 23, 2017