

BLACKROCK MUNIASSETS FUND, INC.

Form N-Q

September 25, 2014

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: 04/30/2015

Date of reporting period: 07/31/2014

Item 1 Schedule of Investments

Schedule of Investments July 31, 2014 (Unaudited)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|------------|------------|
| | (000) | Value |
| Municipal Bonds | | |
| Alabama 2.8% | | |
| County of Jefferson Alabama, RB, Limited Obligation School, Series A: | | |
| 5.25%, 1/01/17 | \$ 895 | \$ 901,176 |
| 5.25%, 1/01/19 | 2,000 | 2,017,800 |
| 5.50%, 1/01/21 | 1,215 | 1,225,813 |
| 4.75%, 1/01/25 | 3,145 | 3,069,174 |
| County of Jefferson Alabama Sewer, Refunding RB, Sub-Lien, Series D, 6.00%, 10/01/42 | 3,745 | 4,065,984 |
| State of Alabama Docks Department, Refunding RB, 6.00%, 10/01/40 | 2,165 | 2,488,646 |
| | | 13,768,593 |
| Alaska 1.1% | | |
| Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A: | | |
| 4.63%, 6/01/23 | 1,435 | 1,338,439 |
| 5.00%, 6/01/32 | 1,500 | 1,152,645 |
| 5.00%, 6/01/46 | 4,000 | 2,968,240 |
| | | 5,459,324 |
| Arizona 2.2% | | |
| City of Phoenix Arizona IDA, RB: | | |
| Great Hearts Academies Veritas Project, 6.30%, 7/01/42 | 500 | 517,670 |
| Great Hearts Academies Veritas Project, 6.40%, 7/01/47 | 425 | 440,568 |
| Legacy Traditional Schools Project, Series A, 6.75%, 7/01/44 (a) | 1,000 | 1,101,340 |
| Series A, 6.50%, 7/01/34 (a) | 570 | 620,365 |
| City of Show Low Arizona, Special Assessment Bonds, Improvement District No. 5, 6.38%, 1/01/15 | 50 | 50,894 |
| County of Maricopa Arizona IDA, RB, Arizona Charter School Project 1, Series A, 6.63%, 7/01/20 | 755 | 722,444 |
| Phoenix IDA Arizona, Refunding RB, America West Airlines, Inc. Project, AMT, 6.30%, 10/01/14 (b) | 5,750 | 5,804,338 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Arizona (concluded) | | |
| University Medical Center Corp. Arizona, RB, | | |
| 6.25%, 7/01/29 | \$ 820 | \$ 947,854 |
| 6.50%, 7/01/39 | 500 | 578,440 |
| | | 10,783,913 |
| California 4.1% | | |
| California Pollution Control Financing Authority, RB, County of San Diego California Water Authority Desalination Project Pipeline, 5.00%, 11/21/45 (a) | | |
| | 1,270 | 1,285,570 |
| California School Finance Authority, RB: | | |
| Alliance for College Ready Public School 2023 Union LLC Project, Series A, 6.40%, 7/01/48 | 1,570 | 1,753,486 |
| Value Schools, 6.65%, 7/01/33 | 435 | 463,236 |
| Value Schools, 6.90%, 7/01/43 | 975 | 1,045,278 |
| California Statewide Communities Development Authority, Refunding RB, American Baptist Homes of the West, 6.25%, 10/01/39 | | |
| | 2,175 | 2,332,013 |
| California Statewide Financing Authority, RB, Tobacco Settlement, Series B, 6.00%, 5/01/43 | | |
| | 1,650 | 1,649,818 |
| City of Fontana California, Refunding RB, Special Tax Bonds, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/14 (b) | | |
| | 2,320 | 2,331,113 |
| City of San Jose California Hotel Tax, RB, Convention Center Expansion & Renovation Project: | | |
| 6.50%, 5/01/36 | 900 | 1,065,168 |
| 6.50%, 5/01/42 | 2,220 | 2,623,019 |
| City of Stockton California Public Financing Authority, RB, Delta Water Supply Project, Series A, 6.25%, 10/01/40 | | |
| | 375 | 426,540 |
| County of Riverside California Transportation Commission, RB, Senior Lien, Series A, 5.75%, 6/01/48 | | |
| | 2,885 | 3,217,381 |

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BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2014

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|--|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| California (concluded) | | |
| Tobacco Securitization Authority of Southern California, Refunding RB, Tobacco Settlement, Asset-Backed, Senior Series A-1, 4.75%, 6/01/25 | \$ 2,000 | \$ 1,934,240 |
| | | 20,126,862 |
| Colorado 0.5% | | |
| Plaza Metropolitan District No. 1 Colorado, Refunding, Tax Allocation Bonds, Public Improvement Fee, Tax Increment, 5.00%, 12/01/40 | 575 | 581,998 |
| Regional Transportation District, RB, Denver Transit Partners Eagle P3 Project, 6.00%, 1/15/34 | 1,500 | 1,667,205 |
| | | 2,249,203 |
| Connecticut 0.3% | | |
| Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31 | 1,370 | 1,370,973 |
| Delaware 0.8% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Power LLC Project, 6.00%, 10/01/40 | 1,000 | 1,100,930 |
| Delaware State EDA, RB, Exempt Facilities, Indian River Power LLC Project, 5.38%, 10/01/45 | 2,620 | 2,756,502 |
| | | 3,857,432 |
| District of Columbia 1.1% | | |
| District of Columbia, RB, Methodist Home District of Columbia, Series A: | | |
| 7.38%, 1/01/30 | 1,665 | 1,669,212 |
| 7.50%, 1/01/39 | 1,615 | 1,618,505 |
| District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33 | 1,055 | 1,167,115 |
| | Par | |
| Municipal Bonds | | |
| District of Columbia (concluded) | | |
| Metropolitan Washington Airports Authority, Refunding RB, Dulles Metrorail and Capital Improvement Project Series A, 5.00%, 10/01/53 | \$ 1,000 | \$ 1,028,710 |
| | | 5,483,542 |
| Florida 9.0% | | |
| Boggy Creek Improvement District, Refunding RB, Special Assessment Bonds, 5.13%, 5/01/43 | 1,600 | 1,617,760 |
| Capital Trust Agency Inc, RB:First Mortgage Silver Creek St. Augustine Project Series A, 8.25%, 1/01/44 | 515 | 514,938 |
| 8.25%, 1/01/49 | 1,105 | 1,098,624 |
| County of Collier Florida IDA, Refunding RB, Arlington of Naples Project, Series A, 8.13%, 5/15/44 (a) | 2,510 | 2,692,552 |
| County of Hillsborough Florida IDA, RB, National Gypsum Co., AMT: | | |
| Series A, 7.13%, 4/01/30 | 3,000 | 3,006,210 |
| Series B, 7.13%, 4/01/30 | 1,560 | 1,561,576 |
| County of Palm Beach Florida Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/33 | 3,500 | 3,697,470 |
| Greenway Improvement District, RB, Special Assessment Bonds, 5.13%, 5/01/43 | 2,000 | 2,022,200 |
| Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33 | 410 | 411,267 |
| Jacksonville Economic Development Commission, RB, Gerdau Ameristeel U.S. Inc., AMT, 5.30%, 5/01/37 | 4,500 | 4,499,730 |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 | 905 | 1,014,433 |
| Lakewood Ranch Stewardship District, Refunding, Special Assessment Bonds, Lakewood Center & New Sector Projects, 8.00%, 5/01/40 | 1,485 | 1,885,579 |
| Mid-Bay Bridge Authority, RB, Springing Lien, Series A, 7.25%, 10/01/40 | 4,550 | 5,453,766 |

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BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2014

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|------------|------------|
| | (000) | Value |
| Municipal Bonds | | |
| Florida (concluded) | | |
| Midtown Miami Community Development District, Refunding, Special Assessment Bonds: Series A, 5.00%, 5/01/37 | \$ 850 | \$ 856,528 |
| Midtown Miami Community Development District, Refunding, Special Assessment Bonds (concluded): Series B, 5.00%, 5/01/37 | 500 | 504,550 |
| Palm Beach County Health Facilities Authority, Refunding RB, Series A, 7.25%, 6/01/34 | 500 | 551,860 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 (c)(d) | 4,739 | 1,990,112 |
| Tampa Palms Open Space and Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18 | 1,075 | 1,076,139 |
| Tolomato Community Development District, Refunding, CAB, Special Assessment Bonds: | | |
| 0.00%, 5/01/39 (e) | 250 | 183,085 |
| 0.00%, 5/01/40 (e) | 585 | 349,070 |
| 6.65%, 5/01/40 | 910 | 924,587 |
| Convertible Series A-4, 0.00%, 5/01/40 (e) | 305 | 134,715 |
| Tolomato Community Development District, Series A-1 (c)(d): | | |
| Series 1, 6.65%, 5/01/40 | 50 | 50,991 |
| Series 2, 6.65%, 5/01/40 | 2,110 | 1,235,405 |
| Series 3, 6.65%, 5/01/40 | 710 | 7 |
| Village Community Development District No. 9, Special Assessment Bonds: | | |
| 6.75%, 5/01/31 | 1,765 | 2,125,907 |
| 7.00%, 5/01/41 | 2,865 | 3,493,810 |
| 5.50%, 5/01/42 | 1,320 | 1,419,766 |
| | | 44,372,637 |
| Georgia 2.0% | | |
| City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31 | 1,035 | 1,046,458 |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33 | 2,745 | 2,859,576 |
| County of Clayton Georgia Development Authority, Refunding RB, Delta Air Lines, Inc. Project, Series A, 8.75%, 6/01/29 | 3,365 | 4,180,070 |
| | Par | |
| Municipal Bonds | | |
| Georgia (concluded) | | |
| County of Gainesville & Hall Georgia Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2: 6.38%, 11/15/29 | \$ 700 | \$ 783,090 |
| County of Gainesville & Hall Georgia Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2 (concluded): 6.63%, 11/15/39 | 880 | 970,552 |
| | | 9,839,746 |
| Guam 1.5% | | |
| Guam Government Waterworks Authority, RB, Water & Wastewater System: | | |
| 5.25%, 7/01/33 | 1,450 | 1,579,094 |
| 5.50%, 7/01/43 | 2,415 | 2,646,405 |
| Guam Government Waterworks Authority, Refunding RB, Water & Wastewater System, 6.00%, 7/01/15 (b) | 1,265 | 1,329,502 |
| Territory of Guam, GO, Series A: | | |
| 6.00%, 11/15/19 | 615 | 672,761 |
| 7.00%, 11/15/39 | 1,115 | 1,230,458 |
| | | 7,458,220 |
| Illinois 4.4% | | |
| City of Chicago Illinois Board of Education, GO, Series A, 5.25%, 12/01/41 | 3,450 | 3,495,816 |
| Illinois Finance Authority, Refunding RB: | | |
| CAB, Clare Water Tower, Series B, 0.00%, 5/15/50 (c)(d)(f) | 1,214 | 12 |
| Clare Water Tower, Series A-7, 6.13%, 5/15/41 (c)(d) | 3,129 | 31 |
| Friendship Village of Schaumburg, 7.25%, 2/15/45 | 4,000 | 4,184,720 |
| Lutheran Home & Services Obligated Group, 5.63%, 5/15/42 | 2,395 | 2,416,172 |

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| | | |
|---|-------|-----------|
| Primary Health Care Centers Program, 6.60%, 7/01/24 | 1,175 | 1,186,327 |
| Roosevelt University Project, 6.50%, 4/01/44 | 4,170 | 4,441,592 |
| Railsplitter Tobacco Settlement Authority, RB: | | |
| 5.50%, 6/01/23 | 1,400 | 1,628,620 |
| 6.00%, 6/01/28 | 710 | 826,383 |

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2014

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|--------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Illinois (concluded) | | |
| Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34 | \$ 1,800 | \$ 1,837,386 |
| Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25 | 1,420 | 1,421,690 |
| | | 21,438,749 |
| Indiana 1.1% | | |
| City of Valparaiso Indiana, RB, Exempt Facilities, Pratt Paper LLC Project, AMT: | | |
| 6.75%, 1/01/34 | 825 | 917,590 |
| 7.00%, 1/01/44 | 2,000 | 2,229,760 |
| Indiana Finance Authority, RB, Private Activity Bond, Ohio River Bridges East End Crossing Project, Series A, AMT: | | |
| 5.00%, 7/01/44 | 470 | 485,688 |
| 5.00%, 7/01/48 | 1,555 | 1,603,454 |
| | | 5,236,492 |
| Iowa 3.3% | | |
| Iowa Finance Authority, Refunding RB: | | |
| Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.50%, 12/01/22 | 4,090 | 4,264,643 |
| Midwestern Disaster Area, Iowa Fertilizer Co. Project, 5.25%, 12/01/25 | 2,190 | 2,308,107 |
| Sunrise Retirement Community Project, 5.50%, 9/01/37 | 1,355 | 1,291,979 |
| Sunrise Retirement Community Project, 5.75%, 9/01/43 | 2,115 | 2,060,983 |
| Iowa Tobacco Settlement Authority, Refunding RB: | | |
| Asset-Backed, Series C, 5.63%, 6/01/46 | 1,565 | 1,293,347 |
| Series B, 5.60%, 6/01/34 | 1,200 | 1,047,624 |
| Series C, 5.38%, 6/01/38 | 4,900 | 3,997,273 |
| | | 16,263,956 |
| Kentucky 0.9% | | |
| Kentucky Public Transportation Infrastructure Authority, RB, Downtown Crossing, First Tier, Series A, 5.75%, 7/01/49 | 4,000 | 4,470,000 |
| | Par | |
| Municipal Bonds | | |
| | (000) | Value |
| Louisiana 2.7% | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Project, 6.75%, 11/01/32 | \$ 5,000 | \$ 5,562,250 |
| Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, 6.75%, 5/01/41 | 1,855 | 2,051,148 |
| Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, Series A, 5.25%, 5/15/35 | 5,570 | 5,919,127 |
| | | 13,532,525 |
| Maine 0.7% | | |
| Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41 | 2,955 | 3,228,840 |
| Maryland 2.5% | | |
| County of Frederick Maryland, RB, Jefferson Technology Park Project, Series B, 7.13%, 7/01/43 | 2,840 | 3,095,202 |
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | 3,615 | 3,841,480 |
| Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25 | 4,785 | 5,223,593 |
| | | 12,160,275 |
| Massachusetts 1.0% | | |
| Massachusetts Development Finance Agency, RB, Series A: | | |
| Foxborough Regional Charter School, 7.00%, 7/01/42 | 1,025 | 1,148,861 |
| North Hill Communities Issue, 6.50%, 11/15/43 | 2,020 | 2,070,661 |
| Massachusetts Development Finance Agency, Refunding RB: | | |

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| | | |
|---|-------|-----------|
| Eastern Nazarene College, 5.63%, 4/01/19 | 25 | 25,049 |
| Eastern Nazarene College, 5.63%, 4/01/29 | 80 | 80,158 |
| Massachusetts Development Finance Agency, Refunding RB: Tufts Medical Center, Series I, 6.75%, 1/01/36 | 1,490 | 1,742,764 |
| | | 5,067,493 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Michigan 2.7% | | |
| City of Detroit Michigan, GO, Taxable Capital Improvement, Limited Tax (c)(d): | | |
| Series A-1, 5.00%, 4/01/16 | \$ 650 | \$ 182,000 |
| Series A-2, 8.00%, 4/01/14 | 3,185 | 891,800 |
| City of Detroit Michigan Sewage Disposal System, Refunding RB, Senior Lien, Series A: | | |
| 5.00%, 7/01/32 | 1,610 | 1,563,551 |
| 5.25%, 7/01/39 | 2,785 | 2,728,019 |
| Royal Oak Hospital Finance Authority, Refunding RB, William Beaumont Hospital, Series V, | | |
| 8.25%, 9/01/18 (b) | 6,310 | 8,138,575 |
| | | 13,503,945 |
| Minnesota 0.4% | | |
| City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/32 | | |
| | 1,785 | 2,111,280 |
| Missouri 1.0% | | |
| Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 | | |
| | 2,315 | 2,641,438 |
| Lees Summit IDA, RB, John Knox Village Obligated Group Series 5.25%, 8/15/39 | | |
| | 2,235 | 2,189,205 |
| | | 4,830,643 |
| New Jersey 4.3% | | |
| New Jersey EDA, RB: | | |
| AMT, Series A, 10.50%, 6/01/32 | 1,940 | 1,425,978 |
| Kapkowski Road Landfill Project, Series B, AMT, 6.50%, 4/01/31 | 2,250 | 2,615,872 |
| Patterson Charter School for Science and Technology, Inc. Project, Series A:, 6.10%, 7/01/44 | 1,085 | 1,134,769 |
| Team Academy Charter School Project, 6.00%, 10/01/43 | 1,530 | 1,668,312 |
| New Jersey EDA, RB (concluded): | | |
| The Goethals Bridge Replacement Project, 5.38%, 1/01/43 | 2,155 | 2,286,132 |
| | Par | |
| Municipal Bonds | | |
| New Jersey (concluded) | | |
| New Jersey Health Care Facilities Financing Authority, Refunding RB: | | |
| St. Barnabas Health Care System, Series A, 5.63%, 7/01/37 | \$ 2,650 | \$ 2,877,847 |
| St. Joseph's Healthcare System, 6.63%, 7/01/38 | 4,090 | 4,421,576 |
| Tobacco Settlement Financing Corp. New Jersey, Refunding RB, Series 1A: | | |
| 4.63%, 6/01/26 | 2,000 | 1,727,840 |
| 5.00%, 6/01/29 | 3,735 | 3,120,929 |
| | | 21,279,255 |
| New Mexico 0.5% | | |
| New Mexico Hospital Equipment Loan Council, Refunding RB, Gerald Champion Regional Medical Center Project, 5.50%, 7/01/42 | | |
| | 2,970 | 2,562,338 |
| New York 5.2% | | |
| City of New York New York Industrial Development Agency, ARB, AMT: | | |
| American Airlines, Inc., JFK International Airport, 8.00%, 8/01/28 (g) | 1,765 | 1,950,431 |
| British Airways PLC Project, 7.63%, 12/01/32 | 4,130 | 4,151,476 |
| City of New York New York Industrial Development Agency, RB, Special Needs Facilities Pooled Program, Series C-1: | | |
| 6.50%, 7/01/24 | 610 | 609,915 |
| 6.63%, 7/01/29 | 1,100 | 1,075,404 |
| County of Chautauqua New York Industrial Development Agency, RB, NRG Dunkirk Power Project, | | |
| 5.88%, 4/01/42 | 3,695 | 4,009,371 |
| County of Westchester New York Healthcare Corp., RB, Senior Lien, Series A, 5.00%, 11/01/44 | 2,062 | 2,189,486 |
| Dutchess County Industrial Development Agency, Refunding RB, 5.00%, 8/01/46 | 5,000 | 4,952,700 |
| Metropolitan Transportation Authority, RB, Series C, 6.50%, 11/15/28 | 2,000 | 2,384,780 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| New York (concluded) | | |
| New York Liberty Development Corp., Refunding RB, 2nd Priority, Bank of America Tower at 1 Bryant Park Project, Class 3, 6.38%, 7/15/49 | \$ 1,270 | \$ 1,398,206 |
| Niagara Area Development Corp., Refunding RB, Solid Waste Disposal Facility, Covanta Energy Project, Series A, AMT, 5.25%, 11/01/42 | 1,335 | 1,350,179 |
| 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 | 1,545,596 |
| | | 25,617,544 |
| North Carolina 1.6% | | |
| North Carolina Medical Care Commission, Refunding RB, First Mortgage, Series A: Deerfield Project, 6.13%, 11/01/38 | 4,565 | 4,973,887 |
| Retirement Facilities Whitestone Project, 7.75%, 3/01/31 | 1,000 | 1,123,680 |
| Retirement Facilities Whitestone Project, 7.75%, 3/01/41 | 1,420 | 1,574,553 |
| | | 7,672,120 |
| North Dakota 0.5% | | |
| City of Williston North Dakota, RB, Eagle Crest Apartments LLC Project, 7.75%, 9/01/38 | 2,155 | 2,229,929 |
| Ohio 2.6% | | |
| Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed Bonds, Series A-2: 5.75%, 6/01/34 | 6,745 | 5,353,844 |
| 6.00%, 6/01/42 | 3,040 | 2,398,712 |
| State of Ohio, RB, Ford Motor Co. Project, AMT, 5.75%, 4/01/35 | 4,880 | 4,985,798 |
| | | 12,738,354 |
| Oklahoma 0.3% | | |
| Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32 | 1,305 | 1,333,880 |
| | Par | |
| Municipal Bonds | | |
| | (000) | Value |
| Pennsylvania 4.5% | | |
| Allentown Neighborhood Improvement Zone Development Authority, Refunding RB, Series A: 5.00%, 5/01/35 | \$ 1,815 | \$ 1,874,895 |
| 5.00%, 5/01/42 | 4,170 | 4,280,130 |
| City of Philadelphia, Pennsylvania Hospitals & Higher Education Facilities Authority, RB, Series A, 5.63%, 7/01/36 | 2,000 | 2,031,140 |
| County of Cumberland Pennsylvania Municipal Authority, Refunding RB, Diakon Lutheran, 6.38%, 1/01/39 | 6,165 | 6,656,350 |
| County of Lancaster Pennsylvania Hospital Authority, Refunding RB, Brethren Village Project, Series A, 6.25%, 7/01/26 | 1,160 | 1,217,606 |
| County of Lehigh Pennsylvania General Purpose Authority, Refunding RB, Bible Fellowship Church Homes, 5.13%, 7/01/32 | 2,705 | 2,671,323 |
| County of Northampton Pennsylvania IDA, Route 33 Project, Tax Allocation Bonds, 7.00%, 7/01/32 | 2,110 | 2,253,923 |
| Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Series A, AMT, 6.25%, 11/01/27 | 1,250 | 1,250,462 |
| | | 22,235,829 |
| Puerto Rico 1.1% | | |
| Commonwealth of Puerto Rico, GO, Refunding Series A, 8.00%, 7/01/35 | 6,000 | 5,400,060 |
| Rhode Island 0.8% | | |
| Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 (c)(d) | 4,190 | 2,499,712 |
| Tobacco Settlement Financing Corp., RB, Series 2002-A, Class C, 6.25%, 6/01/42 | 1,590 | 1,589,873 |
| | | 4,089,585 |
| South Carolina 0.8% | | |

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| | | |
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| State of South Carolina Public Service Authority, RB, Santee Cooper, Series A, 5.50%, 12/01/54 | 3,775 | 4,179,604 |
|--|-------|-----------|

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|---|--------------|--------------|
| | (000) | Value |
| Municipal Bonds | | |
| Texas 12.3% | | |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33 (c)(d) | \$ 5,080 | \$ 469,900 |
| Central Texas Regional Mobility Authority, Refunding RB: | | |
| CAB, 0.00%, 1/01/28 (f) | 1,000 | 536,180 |
| CAB, 0.00%, 1/01/29 (f) | 2,000 | 1,013,640 |
| CAB, 0.00%, 1/01/30 (f) | 1,170 | 560,582 |
| CAB, 0.00%, 1/01/33 (f) | 3,690 | 1,475,410 |
| CAB, 0.00%, 1/01/34 (f) | 4,000 | 1,495,960 |
| Senior Lien, 5.75%, 1/01/25 | 675 | 744,910 |
| Senior Lien, 6.25%, 1/01/46 | 2,210 | 2,480,239 |
| Sub-Lien, 5.00%, 1/01/42 | 330 | 338,765 |
| City of Houston Texas Airport System, RB, Special Facilities, Continental Airlines, Inc., AMT, Series A, 6.63%, 7/15/38 | 2,890 | 3,215,847 |
| City of Houston Texas Airport System, Refunding ARB, United Airlines, Inc. Terminal E Project, AMT: | | |
| 4.75%, 7/01/24 | 1,140 | 1,172,764 |
| 5.00%, 7/01/29 | 910 | 918,399 |
| Clifton Higher Education Finance Corp., ERB, Idea Public Schools: | | |
| 5.50%, 8/15/31 | 955 | 1,037,837 |
| 5.75%, 8/15/41 | 720 | 789,221 |
| Clifton Higher Education Finance Corp., Refunding RB, Uplift Education, Series A, 4.40%, 12/01/47 | 810 | 726,667 |
| County of Bexar Texas Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 | 5,040 | 5,496,876 |
| 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 | 527,188 |
| County of Harris Texas-Houston Sports Authority, Refunding RB, CAB, Senior Lien, Series A (NPFGC), 0.00%, 11/15/38 (f) | 10,000 | 2,521,500 |
| County of Matagorda Texas Navigation District No. 1, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29 | 2,090 | 2,384,335 |
| County of Tarrant Texas Cultural Education Facilities Finance Corp., RB, Series A: | | |
| CC Young Memorial Home, 8.00%, 2/15/38 | 1,745 | 1,928,068 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Texas (continued) | | |
| County of Tarrant Texas Cultural Education Facilities Finance Corp., RB, Series A (concluded): | | |
| Senior Living Center Project, 8.25%, 11/15/44 | \$ 4,200 | \$ 3,610,362 |
| County of Travis Texas Health Facilities Development Corp., Refunding RB, 7.13%, 1/01/46 | 3,080 | 3,295,015 |
| Decatur Hospital Authority, Refunding RB, Wise Regional Health System Series A, | | |
| 5.00%, 9/01/34 | 225 | 226,053 |
| 5.25%, 9/01/44 | 735 | 741,269 |
| La Vernia Higher Education Finance Corp., RB, Kipp, Inc., Series A, 6.38%, 8/15/44 | 860 | 960,672 |
| New Hope Cultural Education Facilities Corp., RB, Stephenville LLC Tarleton State University Project: | | |
| 5.88%, 4/01/36 | 1,210 | 1,343,814 |
| 6.00%, 4/01/45 | 1,845 | 2,052,876 |
| North Texas Education Finance Corp., ERB, Uplift Education, Series A, 5.25%, 12/01/47 | 1,600 | 1,697,904 |
| North Texas Tollway Authority, RB, CAB, Special Project System, Series B, 0.00%, 9/01/37 (f) | 2,110 | 629,835 |
| North Texas Tollway Authority, Refunding RB, 2nd Tier System, Series F, 6.13%, 1/01/31 | 4,425 | 4,693,376 |
| Red River Health Facilities Development Corp., First MRB, Project: | | |
| Eden Home, Inc., 7.25%, 12/15/42 | 2,895 | 2,738,930 |
| Wichita Falls Retirement Foundation, 5.13%, 1/01/41 | 900 | 841,068 |
| 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 | 4,483,228 |

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BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2014

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Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par | |
|--|--------------|--------------------|
| | (000) | Value |
| Municipal Bonds | | |
| Texas (concluded) | | |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien (concluded): | | |
| NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39 | \$ 3,000 | \$ 3,521,730 |
| | | 60,670,420 |
| Utah 0.6% | | |
| State of Utah Charter School Finance Authority, Revenue Improvement and Refunding RB, Entheos Academy Series A 6.75%, 10/15/43 | 2,950 | 3,119,861 |
| Vermont 0.2% | | |
| Vermont EDA, Refunding, MRB, Wake Robin Corp. Project, 5.40%, 5/01/33 | 770 | 787,240 |
| Virginia 3.0% | | |
| County of Fairfax Virginia EDA, Refunding RB: | | |
| Goodwin House, Inc., 5.13%, 10/01/42 | 2,500 | 2,561,800 |
| Vinson Hall LLC, Series A, 5.00%, 12/01/42 | 1,330 | 1,337,794 |
| Mosaic District Community Development Authority, Special Assessment, Series A: | | |
| 6.63%, 3/01/26 | 1,485 | 1,686,529 |
| 6.88%, 3/01/36 | 1,300 | 1,486,901 |
| Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossings OpCo LLC Project, AMT, 6.00%, 1/01/37 | 6,805 | 7,588,528 |
| | | 14,661,552 |
| Washington 0.6% | | |
| County of King Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40 | 1,455 | 1,542,795 |
| Greater Wenatchee Regional Events Center Public Facilities District, Refunding RB, Series A, 5.50%, 9/01/42 | 1,495 | 1,534,139 |
| | | 3,076,934 |
| | Par | |
| | (000) | Value |
| Municipal Bonds | | |
| Wisconsin 0.4% | | |
| Public Finance Authority, RB, Rose Villa Project Series A: | | |
| 5.75%, 11/15/44 | \$ 430 | \$ 427,820 |
| 6.00%, 11/15/49 | 270 | 273,283 |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. Johns Communities, Inc., Series A: | | |
| 7.25%, 9/15/29 | 425 | 478,839 |
| 7.63%, 9/15/39 | 855 | 984,644 |
| | | 2,164,586 |
| Total Municipal Bonds 85.4% | | 420,433,734 |
| Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (h) | | |
| Colorado 2.5% | | |
| Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth Health System, Series A, 5.00%, 1/01/40 | 11,475 | 12,258,857 |
| District of Columbia 1.5% | | |
| District of Columbia Water & Sewer Authority, Refunding RB, Senior Lien, Series A, 6.00%, 10/01/35 (i) | 6,679 | 7,681,242 |
| Florida 3.4% | | |
| County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33 | 15,000 | 16,576,650 |
| Illinois 3.0% | | |

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| | | |
|---|--------|------------|
| City of Chicago Illinois, GARB, O Hare International Airport, 3rd Lien, Series A (NPFGC), 5.00%, 1/01/33 (i) | 6,510 | 6,772,027 |
| Illinois Finance Authority, RB, The Carle Foundation, Series A (AGM), 6.00%, 8/15/41 | 7,180 | 8,171,199 |
| | | 14,943,226 |
| New York 13.5% | | |
| 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 | 15,407,315 |
| Series EE, 5.50%, 6/15/43 | 7,605 | 8,967,664 |
| Series HH, 5.00%, 6/15/31 (i) | 8,609 | 9,612,448 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

(Percentages shown are based on Net Assets)

| | Par (000) | Value |
|---|--------------|----------------|
| Municipal Bonds Transferred to | | |
| Tender Option Bond (TOB) Trusts (h) | | |
| New York (concluded) | | |
| Hudson Yards Infrastructure Corp., RB, Senior Bond, Fiscal 2012, Series A, 5.75%, 2/15/47 (i) | \$ 4,520 | \$ 5,141,667 |
| New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Consolidated, 5.25%, 12/15/43 | 18,105 | 19,949,537 |
| New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 (i) | 6,600 | 7,398,864 |
| | | 66,477,495 |
| Washington 1.8% | | |
| City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40 | 7,966 | 8,687,053 |
| Total Municipal Bonds Transferred to | | |
| Tender Option Bond (TOB) Trusts 25.7% | | 126,624,523 |
| Total Long-Term Investments | | |
| (Cost \$523,719,265) 111.1% | | 547,058,257 |
| Short-Term Securities | | |
| | Shares | Value |
| FFI Institutional Tax-Exempt Fund, 0.03% (j)(k) | 12,437,792 | \$ 12,437,792 |
| Total Short-Term Securities | | |
| (Cost \$12,437,792) 2.5% | | 12,437,792 |
| Total Investments (Cost \$536,157,057*) 113.6% | | 559,496,049 |
| Liabilities in Excess of Other Assets (28.1%) | | (138,227,006) |
| Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable 14.5% | | 71,166,180 |
| Net Assets Applicable to Common Shares 100.0% | | \$ 492,435,223 |

* As of July 31, 2014, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

| | |
|-------------------------------|----------------|
| Tax cost | \$ 464,857,009 |
| Gross unrealized appreciation | \$ 43,514,794 |
| Gross unrealized depreciation | (20,020,259) |
| Net unrealized appreciation | \$ 23,494,535 |

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

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- (d) Non-income producing security.
- (e) Represents a step-up bond that pays an initial coupon rate for the first period and then a higher coupon rate for the following periods. Rate shown is as of report date.
- (f) Zero-coupon bond.
- (g) Variable rate security. Rate shown is as of report date.
- (h) Represent bonds transferred to a TOB. In exchange for which the Fund received cash and residual interest certificates. These bonds serve as collateral in a financing transaction.
- (i) All or a portion of security is subject to a recourse agreement, which may require the Fund to pay the liquidity provider in the event there is a shortfall between the TOB trust certificates and proceeds received from the sale of the security contributed to the TOB trust. In the case of a shortfall, the aggregate maximum potential amount the Fund could ultimately be required to pay under the agreements, which expire from January 01, 2015 to November 15, 2019 is \$21,570,076.
- (j) Investments in issuers considered to be an affiliate of the Fund during the period ended July 31, 2014, 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, 2014 | Net Activity | Shares Held at July 31, 2014 | Income |
|-----------------------------------|--|-------------------------|---|---------------|
| FBI Institutional Tax-Exempt Fund | 259,703 | 12,178,089 | 12,437,792 | \$ 779 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

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

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 |
| GARB | General Airport Revenue Bonds |
| GO | General Obligation Bonds |
| IDA | Industrial Development Authority |
| MRB | Mortgage Revenue Bonds |
| NPFGC | National Public Finance Guarantee Corp. |
| RB | Revenue Bonds |

Financial futures contracts outstanding as of July 31, 2014 were as follows:

Contracts

| Purchased/ Sold | Issue | Exchange | Expiration | Notional Value | Unrealized Appreciation |
|----------------------------|----------------------------|------------------------|-------------------|---------------------------|------------------------------------|
| (375) | 10-Year U.S. Treasury Note | Chicago Board of Trade | September 2014 | \$ 46,728,516 | \$ 403,772 |

Fair Value Measurements Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs to valuation techniques are categorized into a disclosure 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.

Changes in valuation techniques may result in transfers into or out of an assigned level within the disclosure hierarchy. In accordance with the Fund's policy, transfers between different levels of the fair value disclosure 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 investment and derivative financial instrument 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, please refer to the Fund's most recent financial statements as contained in its annual report.

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)

The following tables summarize the Fund's investments and derivative financial instruments categorized in the disclosure hierarchy as of July 31, 2014:

| | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|---------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments: | | | | |
| Long-Term Investments ¹ | | \$ 547,058,257 | | \$ 547,058,257 |
| Short-Term Securities | \$ 12,437,792 | | | 12,437,792 |
| Total | \$ 12,437,792 | \$ 547,058,257 | | \$ 559,496,049 |

¹ See above Schedule of Investments for values in each state or Political Subdivision.

| | Level 1 | Level 2 | Level 3 | Total |
|---|------------|---------|---------|------------|
| Derivative Financial Instruments² | | | | |
| Assets: | | | | |
| Interest rate contracts | \$ 403,772 | | | \$ 403,772 |

² 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 July 31, 2014, such assets and/or liabilities are categorized within the disclosure hierarchy as follows:

| | Level 1 | Level 2 | Level 3 | Total |
|--|------------|-----------------|---------|-----------------|
| Assets: | | | | |
| Cash pledged for financial futures contracts | \$ 512,000 | | | \$ 512,000 |
| Liabilities: | | | | |
| Bank overdraft | | \$ (258,031) | | (258,031) |
| TOB trust certificates | | (71,144,505) | | (71,144,505) |
| Total | \$ 512,000 | \$ (71,402,536) | | \$ (70,890,536) |

There were no transfers between levels during the period ended July 31, 2014.

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: September 25, 2014

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: September 25, 2014

By: /s/ Neal J. Andrews
Neal J. Andrews
Chief Financial Officer (principal financial officer) of

BlackRock MuniAssets Fund, Inc.

Date: September 25, 2014