

BLACKROCK MUNIASSETS FUND, INC.

Form N-Q

March 26, 2013

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: 04/30/2013

Date of reporting period: 01/31/2013

Item 1 Schedule of Investments

Schedule of Investments January 31, 2013 (Unaudited)

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

| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| Alabama 1.3% | | |
| Alabama State Docks Department, Refunding RB, 6.00%, 10/01/40 | \$ 2,165 | \$ 2,538,787 |
| County of Jefferson Alabama, RB, Series A: 5.25%, 1/01/17 | 895 | 895,278 |
| 5.25%, 1/01/19 | 2,000 | 2,000,080 |
| 5.50%, 1/01/21 | 1,215 | 1,217,515 |
| | | 6,651,660 |
| Alaska 1.3% | | |
| Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A: 4.63%, 6/01/23 | 1,720 | 1,726,192 |
| 5.00%, 6/01/32 | 1,500 | 1,372,890 |
| 5.00%, 6/01/46 | 4,000 | 3,514,080 |
| | | 6,613,162 |
| Arizona 2.9% | | |
| Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.63%, 7/01/20 | 1,320 | 1,083,192 |
| Phoenix IDA Arizona, ERB, Great Hearts Academies - Veritas Project: 6.30%, 7/01/42 | 500 | 540,120 |
| 6.40%, 7/01/47 | 425 | 460,832 |
| Phoenix IDA Arizona, Refunding RB, America West Airlines, Inc. Project, AMT, 6.30%, 4/01/23 | 7,750 | 7,326,850 |
| Pima County IDA Arizona, ERB, Arizona Charter School Project: Series A, 6.75%, 7/01/31 | 490 | 491,818 |
| Series E, 7.25%, 7/01/31 | 2,255 | 2,267,650 |
| Show Low Improvement District, Special Assessment Bonds, District No. 5, 6.38%, 1/01/15 | 235 | 237,404 |
| Tempe IDA, Refunding RB, Friendship Village of Tempe, Series A, 6.25%, 12/01/42 | 720 | 781,704 |
| University Medical Center Corp. Arizona, RB: 6.25%, 7/01/29 | 820 | 950,610 |
| 6.50%, 7/01/39 | 500 | 579,295 |
| | | 14,719,475 |
| California 5.3% | | |
| California Pollution Control Financing Authority, RB: 5.00%, 11/21/45 | 1,270 | 1,297,686 |
| Poseidon Resources (Channel Side) LP Desalination, AMT, 5.00%, 7/01/37 | 1,065 | 1,115,470 |
| Poseidon Resources (Channel Side) LP Desalination, AMT, 5.00%, 11/21/45 | 2,655 | 2,760,032 |
| California Statewide Communities Development Authority, Refunding RB: American Baptist Homes of the West, 6.25%, 10/01/39 | 2,175 | 2,457,402 |
| Eskaton Properties, Inc., 5.25%, 11/15/34 | 1,595 | 1,705,709 |
| City of Fontana California, Special Tax Bonds, Refunding RB, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34 | 2,320 | 2,359,718 |
| City of San Jose California Hotel Tax, RB, Convention Center Expansion & Renovation Project: | | |

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| | | |
|--|--------|------------|
| 6.50%, 5/01/36 | 900 | 1,110,123 |
| 6.50%, 5/01/42 | 2,220 | 2,705,958 |
| Foothill Eastern Transportation Corridor Agency California, Refunding RB, CAB, | | |
| 6.06%, 1/15/33(a) | 12,450 | 3,780,318 |
| San Marcos County Unified School District, GO, CAB, Series B(a): | | |
| 4.85%, 8/01/40 | 5,000 | 1,338,550 |
| 5.03%, 8/01/51 | 12,050 | 1,783,039 |
| Tobacco Securitization Authority of Southern California, Refunding RB, Series A1-SNR, | | |
| 5.00%, 6/01/37 | 4,860 | 4,414,824 |
| | | 26,828,829 |
| Colorado 1.4% | | |
| Plaza Metropolitan District No. 1 Colorado Tax Allocation Bonds, Public Improvement Fee, Tax Increment, | | |
| 8.00%, 6/01/14(b) | 4,850 | 5,382,530 |
| Plaza Metropolitan District No. 1 Colorado Tax Allocation Bonds, Refunding, Public Improvement Fee, Tax | | |
| Increment, | | |
| 5.00%, 12/01/40 | 575 | 594,832 |
| Plaza Metropolitan District No. 1 Colorado Tax Allocation Bonds, Subordinate, City of Lakewood Colorado, | | |
| 8.13%, 12/01/25 | 1,025 | 1,025,020 |
| | | 7,002,382 |
| Connecticut 0.7% | | |
| Connecticut State Development Authority, RB, AFCO Cargo BDL LLC Project, AMT, | | |
| 8.00%, 4/01/30(c)(d) | 3,450 | 2,150,937 |
| Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, | | |
| 6.25%, 1/01/31 | 1,370 | 1,371,123 |
| | | 3,522,060 |
| Delaware 1.0% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Project, | | |
| 6.00%, 10/01/40 | 1,000 | 1,130,790 |

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2013

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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 | | |
| Delaware (concluded) | | |
| Delaware State EDA, RB, Exempt Facilities, Indian River Power, 5.38%, 10/01/45 | \$ 3,625 | \$ 3,879,439 |
| | | 5,010,229 |
| District of Columbia 0.9% | | |
| District of Columbia, RB, Methodist Home District of Columbia, Series A: | | |
| 7.38%, 1/01/30 | 1,665 | 1,729,319 |
| 7.50%, 1/01/39 | 1,615 | 1,676,241 |
| District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33 | 1,055 | 1,237,293 |
| | | 4,642,853 |
| Florida 9.9% | | |
| Greater Orlando Aviation Authority Florida, RB, Special Purpose, JetBlue Airways Corp., AMT, 6.38%, 11/15/26 | 4,500 | 4,556,250 |
| Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33 | 455 | 456,488 |
| Hillsborough County IDA, RB, National Gypsum Co., AMT: | | |
| Series A, 7.13%, 4/01/30 | 3,000 | 3,003,030 |
| Series B, 7.13%, 4/01/30 | 1,560 | 1,560,749 |
| Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37 | 4,500 | 4,503,420 |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 | 1,095 | 1,212,888 |
| Lakewood Ranch Stewardship District, Refunding, Special Assessment Bonds, Lakewood Center & New Sector Projects, 8.00%, 5/01/40 | 1,485 | 1,700,800 |
| Mid-Bay Bridge Authority, RB, Series A, 7.25%, 10/01/40 | 4,550 | 5,815,765 |
| Midtown Miami Community Development District, Special Assessment Bonds, Series A: | | |
| 6.00%, 5/01/24 | 1,240 | 1,258,786 |
| 6.25%, 5/01/37 | 4,605 | 4,688,581 |
| Palm Beach County Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/33 | 3,500 | 3,840,795 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28(c)(d) | 5,180 | 2,072,000 |
| Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/27 | 955 | 1,025,823 |
| Sumter Landing Community Development District Florida, RB, Sub-Series B, 5.70%, 10/01/38 | 3,825 | 3,566,621 |
| Tampa Palms Open Space & Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18 | 1,510 | 1,511,872 |
| Tolomato Community Development District, Special Assessment Bonds, 6.65%, 5/01/40(c)(d): | 2,890 | 997,611 |
| Tolomato Community Development District, CAB, Special Assessment Bonds, Refunding: | | |
| 6.97%, 5/01/39(e) | 250 | 179,423 |
| 7.46%, 5/01/40(e) | 585 | 337,071 |
| 8.11%, 5/01/40(e) | 305 | 129,286 |
| 6.65%, 5/01/40 | 910 | 896,978 |

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Village Community Development District No. 9, Special Assessment Bonds:

| | | |
|----------------|-------|------------|
| 6.75%, 5/01/31 | 1,920 | 2,219,117 |
| 7.00%, 5/01/41 | 3,135 | 3,644,061 |
| 5.50%, 5/01/42 | 1,380 | 1,485,432 |
| | | 50,662,847 |

Georgia 2.4%

| | | |
|--|-------|------------|
| City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, | | |
| 5.50%, 1/01/31 | 1,035 | 1,053,050 |
| Clayton County Development Authority, Refunding RB, Delta Air Lines Inc. Project, Series A, | | |
| 8.75%, 6/01/29 | 3,365 | 4,219,373 |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, | | |
| 7.50%, 7/01/33 | 2,765 | 2,878,393 |
| DeKalb County Hospital Authority Georgia, Refunding RB, Dekalb Medical Center, Inc. Project, | | |
| 6.13%, 9/01/40 | 1,000 | 1,174,930 |
| Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2: | | |
| 6.38%, 11/15/29 | 700 | 809,956 |
| 6.63%, 11/15/39 | 880 | 1,014,948 |
| Private Colleges & Universities Authority, Refunding RB, Mercer University Project, Series A, | | |
| 5.00%, 10/01/32 | 855 | 938,722 |
| | | 12,089,372 |

Guam 0.6%

| | | |
|---|-------|-----------|
| Guam Government Waterworks Authority, Refunding RB, Water & Wastewater Systems, | | |
| 6.00%, 7/01/25 | 1,265 | 1,319,117 |

Schedule of Investments (continued)

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

| | Par (000) | Value |
|---|--------------|------------|
| Municipal Bonds | | |
| Guam (concluded) | | |
| Territory of Guam, GO, Series A: | | |
| 6.00%, 11/15/19 | \$ 615 | \$ 676,894 |
| 7.00%, 11/15/39 | 1,115 | 1,257,307 |
| | | 3,253,318 |
| Illinois 5.3% | | |
| City of Chicago Illinois, Refunding RB, American Airlines Inc. Project, | | |
| 5.50%, 12/01/30(c)(d) | 7,000 | 6,545,210 |
| Illinois Finance Authority, Refunding RB: | | |
| CAB, Clare Water Tower, Series B, 8.00%, 5/15/50(a)(c)(d) | 1,491 | 15 |
| 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 | 4,434,600 |
| Lutheran Home & Services Obligated Group, 5.63%, 5/15/42 | 2,395 | 2,496,812 |
| Primary Health Care Centers Program, 6.60%, 7/01/24 | 1,175 | 1,190,780 |
| Roosevelt University Project, 6.50%, 4/01/44 | 4,170 | 4,748,337 |
| Metropolitan Pier & Exposition Authority, Refunding RB, McCormick Place Expansion Project, Series B (AGM), | | |
| 4.89%, 6/15/46(a) | 9,860 | 1,966,380 |
| Railsplitter Tobacco Settlement Authority, RB: | | |
| 5.50%, 6/01/23 | 1,400 | 1,665,524 |
| 6.00%, 6/01/28 | 710 | 852,646 |
| Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, | | |
| 6.25%, 3/01/34 | 1,800 | 1,830,996 |
| Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, | | |
| 6.00%, 1/01/25 | 1,465 | 1,473,321 |
| | | 27,204,652 |
| Iowa 0.7% | | |
| Iowa Finance Authority, Refunding RB, Sunrise Retirement Community Project: | | |
| 5.50%, 9/01/37 | 1,355 | 1,340,529 |
| 5.75%, 9/01/43 | 2,115 | 2,124,158 |
| | | 3,464,687 |
| Kentucky 0.6% | | |
| Kentucky Economic Development Finance Authority, RB, Owensboro Medical Health System, Series A, | | |
| 6.38%, 6/01/40 | 1,580 | 1,882,728 |
| Kentucky Economic Development Finance Authority, Refunding RB, Owensboro Medical Health System, Series B, | | |
| 6.38%, 3/01/40 | 1,135 | 1,352,466 |
| | | 3,235,194 |
| Louisiana 1.5% | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, | | |
| 6.75%, 11/01/32 | 5,000 | 5,684,000 |
| Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, | | |
| 6.75%, 5/01/41 | 1,855 | 2,191,720 |

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7,875,720

Maine 0.7%

| | | |
|---|-------|-----------|
| Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41 | 2,955 | 3,587,311 |
|---|-------|-----------|

Maryland 2.6%

| | | |
|---|-------|-----------|
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | 3,615 | 4,126,848 |
| Maryland EDC, Refunding RB, CNX Marine Terminals Inc., 5.75%, 9/01/25 | 4,785 | 5,344,510 |
| Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38(c)(d) | 1,000 | 399,910 |
| Maryland Health & Higher Educational Facilities Authority, Refunding RB, Doctor s Community Hospital, 5.75%, 7/01/38 | 3,110 | 3,369,032 |

13,240,300

Massachusetts 0.6%

| | | |
|---|-------|-----------|
| Massachusetts Development Finance Agency, RB, Foxborough Regional Charter School, Series A, 7.00%, 7/01/42 | 1,025 | 1,214,112 |
| Massachusetts Development Finance Agency, Refunding RB: Eastern Nazarene College, 5.63%, 4/01/19 | 35 | 35,017 |
| Eastern Nazarene College, 5.63%, 4/01/29 | 80 | 80,000 |
| Tufts Medical Center, Series I, 6.75%, 1/01/36 | 1,490 | 1,817,651 |

3,146,780

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2013

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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 | | |
| Michigan 2.3% | | |
| City of Detroit Michigan, GO, Limited Tax: | | |
| Series A-1, 5.00%, 4/01/16 | \$ 650 | \$ 580,801 |
| Series A-2, 8.00%, 4/01/14 | 3,185 | 3,026,482 |
| Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39 | 6,310 | 8,068,345 |
| | | 11,675,628 |
| Minnesota 0.4% | | |
| City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/32 | | |
| | 1,785 | 2,169,935 |
| Missouri 0.6% | | |
| Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 | | |
| | 2,315 | 2,773,509 |
| New Jersey 5.8% | | |
| New Jersey EDA, RB: | | |
| Continental Airlines Inc. Project, AMT, 6.25%, 9/15/29 | 2,025 | 2,063,617 |
| Continental Airlines Inc. Project, AMT, 9.00%, 6/01/33(f) | 1,250 | 1,282,962 |
| Kapkowski Road Landfill Project, Series 1998B-MB, AMT, 6.50%, 4/01/31 | 2,250 | 2,670,840 |
| Patterson Charter School for Science and Technology, Inc. Project, Series A, 6.10%, 7/01/44 | 1,085 | 1,186,502 |
| New Jersey EDA, Refunding RB, Newark Airport Marriott Hotel, 7.00%, 10/01/14 | 4,000 | 4,019,720 |
| New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B: 7.13%, 12/01/23 | 670 | 856,394 |
| 7.50%, 12/01/32 | 3,575 | 4,480,047 |
| New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36(c)(d) | 3,870 | 39 |
| New Jersey Health Care Facilities Financing Authority, Refunding RB: | | |
| Barnabas Health, Series A, 5.63%, 7/01/37 | 2,650 | 2,993,466 |
| St. Joseph's Healthcare System, 6.63%, 7/01/38 | 4,090 | 4,739,574 |
| New Jersey Transportation Trust Fund Authority, RB, Transportation System, Series C (AMBAC), 4.57%, 12/15/35(a) | 6,210 | 2,209,270 |
| Tobacco Settlement Financing Corp. New Jersey, Refunding RB, Series 1-A: | | |
| 4.50%, 6/01/23 | 1,390 | 1,386,511 |
| 4.63%, 6/01/26 | 2,000 | 1,940,780 |
| | | 29,829,722 |
| 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 | 3,047,784 |
| New York 5.0% | | |
| Chautauqua County Industrial Development Agency, RB, NRG Dunkirk Power Project, 5.88%, 4/01/42 | | |
| | 3,695 | 4,171,840 |
| Dutchess County Industrial Development Agency New York, RB, St. Francis Hospital, Series B, 7.50%, 3/01/29 | 1,000 | 1,026,130 |
| Dutchess County Industrial Development Agency New York, Refunding RB, St. Francis Hospital, Series A, 7.50%, 3/01/29 | 1,400 | 1,436,582 |

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| | | |
|--|-------|-----------|
| Metropolitan Transportation Authority, RB, Series 2008C, 6.50%, 11/15/28 | 2,000 | 2,544,920 |
| New York City Industrial Development Agency, RB: American Airlines Inc., JFK International Airport, AMT, 8.00%, 8/01/28(c)(d)(f) | 1,765 | 2,035,151 |
| British Airways Plc Project, AMT, 7.63%, 12/01/32 Series C, 6.80%, 6/01/28 | 4,130 | 4,233,622 |
| Special Needs Facilities Pooled Program, Series C-1, 6.50%, 7/01/24 | 860 | 871,145 |
| Special Needs Facilities Pooled Program, Series C-1, 6.63%, 7/01/29 | 610 | 615,557 |
| New York Liberty Development Corp., Refunding RB, Second Priority, Bank of America Tower at One Bryant Park Project, Class 3, 6.38%, 7/15/49 | 1,100 | 1,104,136 |
| Niagara Area Development Corp., Refunding RB, Covanta Energy Project, Series A, AMT, 5.25%, 11/01/42 | 1,270 | 1,509,179 |
| Port Authority of New York & New Jersey, RB, JFK International Air Terminal, 6.00%, 12/01/36 | 1,835 | 1,893,133 |
| | 1,340 | 1,592,965 |

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BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2013

Schedule of Investments (continued)

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

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| New York (concluded) | | |
| Yonkers Industrial Development Agency New York, RB, Sarah Lawrence College Project, Series A, 6.00%, 6/01/41 | \$ 2,090 | \$ 2,369,161 |
| | | 25,403,521 |
| North Carolina 1.5% | | |
| North Carolina Medical Care Commission, Refunding RB First Mortgage, Series A: | | |
| Deerfield, 6.13%, 11/01/38 | 4,565 | 5,024,102 |
| Whitestone, 7.75%, 3/01/31 | 1,000 | 1,153,990 |
| Whitestone, 7.75%, 3/01/41 | 1,420 | 1,623,159 |
| | | 7,801,251 |
| Ohio 3.0% | | |
| Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2: | | |
| 5.13%, 6/01/24 | 1,350 | 1,247,481 |
| 5.75%, 6/01/34 | 6,745 | 6,001,364 |
| 6.00%, 6/01/42 | 3,040 | 2,764,424 |
| State of Ohio, RB, Ford Motor Co. Project, AMT, 5.75%, 4/01/35 | 4,880 | 5,071,735 |
| | | 15,085,004 |
| Oklahoma 0.3% | | |
| Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32 | | |
| | 1,305 | 1,421,406 |
| Pennsylvania 6.8% | | |
| Allegheny County Hospital Development Authority, Refunding RB, Health System, West Penn, Series A, 5.38%, 11/15/40 | | |
| | 3,330 | 2,830,433 |
| Allentown Neighborhood Improvement Zone Development Authority, Refunding RB: | | |
| 5.00%, 5/01/35 | 1,815 | 1,961,362 |
| 5.00%, 5/01/42 | 4,170 | 4,466,195 |
| Bucks County IDA, RB, Ann's Choice, Inc. Facility, Series A: | | |
| 6.13%, 1/01/25 | 1,360 | 1,370,622 |
| 6.25%, 1/01/35 | 1,550 | 1,557,347 |
| Cumberland County Municipal Authority, Refunding RB, Diakon Lutheran, 6.38%, 1/01/39 | | |
| | 6,165 | 6,915,589 |
| Lancaster County Hospital Authority, Refunding RB, Brethren Village Project, Series A, 6.25%, 7/01/26 | | |
| | 1,160 | 1,255,874 |
| Lehigh County General Purpose Authority, Refunding RB, Bible Fellowship Church Homes, 5.13%, 7/01/32 | | |
| | 2,905 | 2,874,236 |
| Montgomery County IDA Pennsylvania, MRB, Whitemarsh Continuing Care, 6.13%, 2/01/28 | | |
| | 2,330 | 2,375,085 |
| Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Series A, AMT, 6.25%, 11/01/27 | | |
| | 1,250 | 1,249,875 |
| Philadelphia Authority for Industrial Development, RB, Commercial Development, AMT, 7.75%, 12/01/17 | | |
| | 8,000 | 8,012,320 |
| | | 34,868,938 |

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Puerto Rico 1.5%

| | | |
|--|-------|-----------|
| Puerto Rico Public Buildings Authority, Refunding RB, Government Facilities, Series U, 5.25%, 7/01/42 | 3,790 | 3,778,554 |
| Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44 | 2,650 | 3,008,068 |
| Puerto Rico Sales Tax Financing Corp., Refunding RB, CAB, First Sub-Series C, 5.95%, 8/01/38(a) | 4,445 | 996,658 |
| | | 7,783,280 |

Rhode Island 0.7%

| | | |
|---|-------|-----------|
| Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 | 4,245 | 3,677,104 |
|---|-------|-----------|

Tennessee 0.1%

| | | |
|---|-----|---------|
| Shelby County Health Educational & Housing Facilities Board Tennessee, RB, Village at Germantown, 6.25%, 12/01/16(b) | 575 | 654,770 |
|---|-----|---------|

Texas 13.6%

| | | |
|--|-------|-----------|
| Bexar County Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 | 5,040 | 5,655,989 |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33 | 5,080 | 838,301 |
| Central Texas Regional Mobility Authority, Refunding RB, Senior Lien: 5.75%, 1/01/25 | 675 | 782,386 |
| 6.25%, 1/01/46 | 2,210 | 2,606,894 |
| Central Texas Regional Mobility Authority, Refunding RB, CAB(a): 4.70%, 1/01/28 | 1,000 | 500,090 |
| 4.75%, 1/01/29 | 2,000 | 947,520 |
| 4.87%, 1/01/30 | 1,170 | 518,673 |
| 4.97%, 1/01/31 | 2,000 | 829,480 |
| 5.11%, 1/01/32 | 3,500 | 1,348,760 |
| 5.23%, 1/01/33 | 3,690 | 1,319,655 |
| 5.28%, 1/01/34 | 4,000 | 1,344,760 |

Schedule of Investments (continued)

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

| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| Texas (continued) | | |
| City of Houston Texas, RB, Special Facilities, AMT: | | |
| Continental Airlines Inc. Terminal Improvement Projects, 6.63%, 7/15/38 | \$ 2,890 | \$ 3,212,639 |
| Continental Airlines, Series E, 6.75%, 7/01/21 | 4,550 | 4,566,835 |
| Clifton Higher Education Finance Corp., ERB, Idea Public Schools: | | |
| 5.50%, 8/01/31 | 955 | 1,077,622 |
| 5.75%, 8/01/41 | 720 | 817,056 |
| Clifton Higher Education Finance Corp., Refunding RB, Uplift Education, Series A: | | |
| 4.35%, 12/01/42 | 985 | 985,729 |
| 4.40%, 12/01/47 | 810 | 810,599 |
| Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B: | | |
| 7.13%, 12/01/31 | 1,500 | 1,915,245 |
| 7.25%, 12/01/35 | 1,110 | 1,382,871 |
| Harris County-Houston Sports Authority, Refunding RB, CAB, Senior Lien, Series A (NPFGC), | | |
| 5.36%, 11/15/38(a) | 10,000 | 2,554,100 |
| Houston Higher Education Finance Corp., RB, Cosmos Foundation, Inc. Series A, | | |
| 6.88%, 5/15/41 | 595 | 756,638 |
| La Vernia Higher Education Finance Corp., RB, KIPP, Inc., Series A, | | |
| 6.38%, 8/15/44 | 860 | 1,007,215 |
| Love Field Airport Modernization Corp., RB, Southwest Airlines Co. Project, | | |
| 5.25%, 11/01/40 | 1,500 | 1,635,270 |
| Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, | | |
| 6.30%, 11/01/29 | 2,090 | 2,465,050 |
| North Texas Education Finance Corporation, ERB, Uplift Education, Series A: | | |
| 5.13%, 12/01/42 | 745 | 803,386 |
| 5.25%, 12/01/47 | 1,600 | 1,734,960 |
| North Texas Tollway Authority, RB, CAB, Special Projects System, Series B, | | |
| 5.12%, 9/01/37(a) | 2,110 | 609,157 |
| North Texas Tollway Authority, Refunding RB, Toll Second Tier, Series F, | | |
| 6.13%, 1/01/31 | 4,425 | 4,893,121 |
| Red River Health Facilities Development Corp., First MRB: | | |
| Eden Home Inc. Project, 7.25%, 12/15/42 | 2,895 | 3,063,720 |
| Wichita Falls Retirement Foundation Project, 5.13%, 1/01/41 | 900 | 900,153 |
| Tarrant County Cultural Education Facilities Finance Corp., RB, Series A, Series A: | | |
| CC Young Memorial Home, 8.00%, 2/15/38 | 1,745 | 2,001,114 |
| Senior Living Center Project, 8.25%, 11/15/44 | 4,200 | 4,685,352 |
| Texas Municipal Gas Acquisition & Supply Corp. III, RB, | | |
| 5.00%, 12/15/29 | 1,945 | 2,122,326 |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien: | | |
| LBJ Infrastructure Group LLC, LBJ Freeway Managed Lanes Project, 7.00%, 6/30/40 | 4,455 | 5,420,131 |
| NTE Mobility Partners LLC, North Tarrant Express Managed Lanes Project, 6.88%, 12/31/39 | 3,000 | 3,588,600 |
| | | 69,701,397 |
| Vermont 0.2% | | |
| Vermont EDA, Refunding MRB, Wake Robin Corp. Project, Series A, | | |
| 5.40%, 5/01/33 | 770 | 813,197 |
| Virginia 4.0% | | |
| Fairfax County EDA, RB, Vinson Hall LLC, Series A: | | |
| 5.00%, 12/01/42 | 1,330 | 1,337,648 |

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| | | |
|--|-------|-----------|
| 5.00%, 12/01/47 | 1,735 | 1,737,759 |
| Fairfax County EDA, Refunding RB, Goodwin House Inc., | | |
| 5.13%, 10/01/42 | 2,500 | 2,590,500 |
| Lexington IDA, Refunding MRB, Kendal at Lexington, Series A, | | |
| 5.38%, 1/01/28 | 40 | 40,925 |
| Mosaic District Community Development Authority, RB, Special Assessment Bonds, Series A: | | |
| 6.63%, 3/01/26 | 1,485 | 1,728,496 |
| 6.88%, 3/01/36 | 1,300 | 1,506,271 |
| Route 460 Funding Corp. of Virginia Toll Road, RB, Senior Lien, CAB, Series B(a): | | |
| 5.21%, 7/01/42 | 3,485 | 768,024 |
| 5.22%, 7/01/43 | 3,610 | 753,010 |
| 5.24%, 7/01/44 | 3,690 | 727,705 |
| 5.24%, 7/01/45 | 2,905 | 542,828 |

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BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2013

Schedule of Investments (continued)

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

| | Par (000) | Value |
|--|--------------|-------------|
| Municipal Bonds | | |
| Virginia (concluded) | | |
| Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossing Project, AMT: | | |
| 5.25%, 1/01/32 | \$ 810 | \$ 887,436 |
| 6.00%, 1/01/37 | 5,705 | 6,558,924 |
| 5.50%, 1/01/42 | 1,175 | 1,283,194 |
| | | 20,462,720 |
| Washington 0.6% | | |
| Greater Wenatchee Regional Events Center Public Facilities District, Refunding RB, Series A, 5.50%, 9/01/42 | | |
| | 1,495 | 1,583,175 |
| King County, Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40 | | |
| | 1,455 | 1,616,694 |
| | | 3,199,869 |
| Wisconsin 0.3% | | |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A: | | |
| 7.25%, 9/15/29 | 425 | 487,343 |
| 7.63%, 9/15/39 | 855 | 988,739 |
| | | 1,476,082 |
| Total Municipal Bonds 87.0% | | 444,595,948 |
| Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (g) | | |
| Colorado 2.5% | | |
| Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth, Series A, 5.00%, 1/01/40 | | |
| | 11,475 | 12,546,077 |
| District of Columbia 1.6% | | |
| District of Columbia Water & Sewer Authority, Refunding RB, Series A, 6.00%, 10/01/35(h) | | |
| | 6,681 | 8,109,610 |
| Florida 3.2% | | |
| County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33 | | |
| | 15,000 | 16,273,800 |
| Illinois 3.0% | | |
| City of Chicago Illinois, RB, General Airport, Third Lien, Series A (NPFGC), 5.00%, 1/01/33 | | |
| | 6,510 | 7,062,504 |
| Illinois Finance Authority, RB, Carle Foundation, Series A (AGM), 6.00%, 8/15/41 | | |
| | 7,180 | 8,500,761 |
| | | 15,563,265 |
| Michigan 0.9% | | |
| Detroit Water and Sewerage Department, Refunding RB, Senior Lien, Series A: | | |

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| | | |
|---|---------------|----------------|
| 5.00%, 7/01/32 | 1,613 | 1,745,834 |
| 5.25%, 7/01/39 | 2,786 | 3,034,448 |
| | | 4,780,282 |
| New York 11.3% | | |
| Hudson New York Yards Infrastructure Corp., RB, Series A, 5.75%, 2/15/47 | 4,520 | 5,393,289 |
| New York City Municipal Water Finance Authority, Refunding RB, Water & Sewer System, Second General Resolution: Series EE, 5.50%, 6/15/43 | 7,605 | 8,998,920 |
| Series HH, 5.00%, 6/15/31(h) | 8,609 | 10,246,919 |
| New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Construction, 5.25%, 12/15/43 | 18,105 | 20,830,243 |
| New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 | 6,600 | 7,830,108 |
| New York State Dormitory Authority, ERB, Series F, 5.00%, 3/15/35 | 4,004 | 4,324,213 |
| | | 57,623,692 |
| Washington 1.8% | | |
| City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40 | 7,966 | 9,026,097 |
| Total Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts 24.3% | | 123,922,823 |
| Total Long-Term Investments (Cost \$525,097,398) 111.3% | | 568,518,771 |
| Short-Term Securities | Shares | |
| FFI Institutional Tax-Exempt Fund, 0.01%(i)(j) | 2,730,260 | 2,730,260 |
| Total Short-Term Securities (Cost \$2,730,260) 0.5% | | 2,730,260 |
| Total Investments (Cost \$527,827,658*) 111.8% | | 571,249,031 |
| Other Assets Less Liabilities 0.8% | | 3,914,335 |
| Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (12.6)% | | (64,187,829) |
| Net Assets 100.0% | | \$ 510,975,537 |

* As of January 31, 2013, gross unrealized appreciation and gross unrealized depreciation based on cost for federal income tax purposes were as follows:

| | |
|-------------------------------|----------------|
| Tax cost | \$ 463,209,085 |
| Gross unrealized appreciation | \$ 61,361,719 |
| Gross unrealized depreciation | (17,470,562) |
| Net unrealized appreciation | \$ 43,891,157 |

Schedule of Investments (continued)

BlackRock MuniAssets Fund, Inc. (MUA)

Notes to Schedule of Investments

- (a) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (b) US government securities, held in escrow, are used to pay interest on this security, as well as to retire the bond in full at the date indicated, typically at a premium to par.
- (c) Non-income producing security.
- (d) Issuer filed for bankruptcy and/or is in default of principal and/or interest payments.
- (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 reflects the current yield as of report date.
- (f) Variable rate security. Rate shown is as of report date.
- (g) Securities represent bonds transferred to a TOB in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.
- (h) 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 is \$9,080,016.
- (i) Investments in issuers considered to be an affiliate of the Fund during the period ended January 31, 2013, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

| Affiliate | Shares Held at | | Shares Held at | | Income |
|-----------------------------------|----------------|--------------|------------------|--|--------|
| | April 30, 2012 | Net Activity | January 31, 2013 | | |
| FFI Institutional Tax-Exempt Fund | 3,404,970 | (674,710) | 2,730,260 | | \$ 358 |

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

Portfolio Abbreviations

AGC Assured Guaranty Corp.

ERB Education Revenue Bonds

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To simplify the listings of portfolio holdings in the Schedule of Investments, the names and descriptions of many of the securities have been abbreviated according to the following list:

| | | | |
|--------------|---|--------------|---|
| AGM | Assured Guaranty Municipal Corp. | GO | General Obligation Bonds |
| AMBAC | American Municipal Bond Assurance Corp. | IDA | Industrial Development Authority |
| AMT | Alternative Minimum Tax (subject to) | MRB | Mortgage Revenue Bonds |
| CAB | Capital Appreciation Bonds | NPFGC | National Public Finance Guarantee Corp. |
| EDA | Economic Development Authority | RB | Revenue Bonds |
| EDC | Economic Development Corp. | | |

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BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2013

Schedule of Investments (concluded)**BlackRock MuniAssets Fund, Inc. (MUA)**

Fair Value Measurements Various inputs are used in determining the fair value of investments. 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 and 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)

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 level in the fair value hierarchy within which the fair value measurement falls in its entirety 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 is based on the pricing transparency of the investment 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 other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its semi-annual report.

The following table summarizes the Fund's investments categorized in the disclosure hierarchy as of January 31, 2013:

| | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|--------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments: | | | | |
| Long-Term Investments ¹ | | \$ 568,518,771 | | \$ 568,518,771 |
| Short-Term Securities | \$ 2,730,260 | | | 2,730,260 |
| Total | \$ 2,730,260 | \$ 568,518,771 | | \$ 571,249,031 |

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

Certain of the Fund's liabilities are held at carrying amount, which approximates fair value for financial reporting purposes. As of January 31, 2013, TOB trust certificates of \$64,148,789 are categorized as Level 2 within the disclosure hierarchy.

There were no transfers between levels during the period ended January 31, 2013.

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

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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 26, 2013

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 26, 2013

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

Date: March 26, 2013