

BLACKROCK MUNIASSETS FUND, INC.
Form N-Q
September 25, 2012
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: 07/31/2012

Item 1 – Schedule of Investments

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Schedule of Investments July 31, 2012 (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 | \$ 2,509,776 |
| County of Jefferson Alabama, RB, Series A: | | |
| 5.25%, 1/01/17 | 895 | 898,052 |
| 5.25%, 1/01/19 | 2,000 | 2,002,200 |
| 5.50%, 1/01/21 | 1,215 | 1,219,399 |
| | | 6,629,427 |
| Alaska 1.4% | | |
| Northern Tobacco Securitization Corp., Refunding RB, Tobacco Settlement, Asset-Backed, Series A: | | |
| 4.63%, 6/01/23 | 1,725 | 1,719,808 |
| 5.00%, 6/01/32 | 1,500 | 1,283,820 |
| 5.00%, 6/01/46 | 4,885 | 3,831,940 |
| | | 6,835,568 |
| Arizona 3.0% | | |
| Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.63%, 7/01/20 | 1,820 | 1,476,366 |
| Phoenix IDA Arizona, ERB, Great Hearts Academies - Veritas Project: | | |
| 6.30%, 7/01/42 | 500 | 532,795 |
| 6.40%, 7/01/47 | 425 | 453,131 |
| Phoenix IDA Arizona, Refunding RB, America West Airlines Inc. Project, AMT, 6.30%, 4/01/23 | 7,750 | 6,833,097 |
| Pima County IDA Arizona, ERB, Arizona Charter School Project: | | |
| Series A, 6.75%, 7/01/31 | 490 | 491,338 |
| Series E, 7.25%, 7/01/31 | 2,255 | 2,265,441 |
| Show Low Improvement District, Special Assessment Bonds, District No. 5, 6.38%, 1/01/15 | 450 | 454,302 |
| Tempe IDA, Refunding RB, Friendship Village of Tempe, Series A, 6.25%, 12/01/42 | 720 | 775,008 |
| University Medical Center Corp. Arizona, RB: | | |
| 6.25%, 7/01/29 | 820 | 949,256 |
| 6.50%, 7/01/39 | 500 | 579,440 |
| | | 14,810,174 |
| California 4.5% | | |
| California Statewide Communities Development Authority, RB, Series A, 5.00%, 4/01/42 | 1,745 | 1,910,042 |
| California Statewide Communities Development Authority, Refunding RB: | | |
| American Baptist Homes of the West, 6.25%, 10/01/39 | 2,175 | 2,361,419 |
| Eskaton Properties, Inc., 5.25%, 11/15/34 | 1,595 | 1,669,774 |
| Municipal Bonds | | Value |

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| | Par (000) | |
|--|----------------------|--------------|
| California (concluded) | | |
| City of Fontana California, Special Tax Bonds, Refunding RB, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34 | \$ 2,320 | \$ 2,362,479 |
| City of San Jose California Hotel Tax Revenue, RB, Convention Center Expansion & Renovation Project: | | |
| 6.50%, 5/01/36 | 900 | 1,048,761 |
| 6.50%, 5/01/42 | 2,220 | 2,584,635 |
| Foothill Eastern Transportation Corridor Agency California, Refunding RB, CAB, 6.07%, 1/15/33 (a) | 12,450 | 3,663,911 |
| San Marcos County Unified School District, GO, CAB, Series B (a): | | |
| 5.10%, 8/01/40 | 5,000 | 1,220,600 |
| 5.15%, 8/01/51 | 12,050 | 1,659,285 |
| Tobacco Securitization Authority of Southern California, Refunding RB, Series A1-SNR, 5.00%, 6/01/37 | 4,860 | 3,886,250 |
| | | 22,367,156 |
| Colorado 1.2% | | |
| Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Public Improvement Fee, Tax Increment: | | |
| 8.00%, 12/01/25 | 4,850 | 5,031,584 |
| Subordinate, 8.13%, 12/01/25 | 1,025 | 1,024,898 |
| | | 6,056,482 |
| Connecticut 1.0% | | |
| Connecticut State Development Authority, RB, AFCO Cargo BDL LLC Project, AMT, 8.00%, 4/01/30 (b)(c) | 3,450 | 2,126,097 |
| Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 5.25%, 1/01/33 (d) | 1,500 | 1,393,485 |
| Mohegan Tribe of Indians of Connecticut, Refunding RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31 | 1,370 | 1,370,685 |
| | | 4,890,267 |
| Delaware 1.0% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Project, 6.00%, 10/01/40 | 1,000 | 1,135,530 |
| Delaware State EDA, RB, Exempt Facilities, Indian River Power, 5.38%, 10/01/45 | 3,625 | 3,923,990 |
| | | 5,059,520 |

Schedule of Investments (continued)

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

| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| District of Columbia 1.3% | | |
| District of Columbia, RB, Methodist Home District of Columbia, Series A: | | |
| 7.38%, 1/01/30 | \$ 1,665 | \$ 1,736,628 |
| 7.50%, 1/01/39 | 1,615 | 1,683,056 |
| District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33 | 2,785 | 3,039,020 |
| | | 6,458,704 |
| Florida 10.4% | | |
| Greater Orlando Aviation Authority Florida, RB, Special Purpose, JetBlue Airways Corp., AMT, 6.38%, 11/15/26 | 4,500 | 4,548,240 |
| Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33 | 455 | 455,223 |
| Hillsborough County IDA, RB, National Gypsum Co., AMT: | | |
| Series A, 7.13%, 4/01/30 | 4,500 | 4,502,970 |
| Series B, 7.13%, 4/01/30 | 1,560 | 1,560,468 |
| Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37 | 4,500 | 4,501,170 |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 | 1,365 | 1,555,322 |
| Lakewood Ranch Stewardship District, Special Assessment Bonds, Refunding, Lakewood Center & New Sector Projects, 8.00%, 5/01/40 | 1,485 | 1,629,565 |
| Mid-Bay Bridge Authority, RB, Series A, 7.25%, 10/01/40 | 4,550 | 5,743,055 |
| Midtown Miami Community Development District, Special Assessment Bonds, Series A: | | |
| 6.00%, 5/01/24 | 1,240 | 1,263,126 |
| 6.25%, 5/01/37 | 4,605 | 4,709,948 |
| Palm Beach County Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/33 | 3,500 | 3,812,935 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 (b)(c) | 5,180 | 2,007,302 |
| Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/27 | 955 | 1,009,817 |
| Sumter Landing Community Development District Florida, RB, Sub-Series B, 5.70%, 10/01/38 | 3,885 | 3,555,202 |
| Tampa Palms Open Space & Transportation Community Development District, RB, Capital Improvement, Richmond Place | 1,520 | 1,521,702 |

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Project, 7.50%, 5/01/18

| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| Florida (concluded) | | |
| Tolomato Community Development District, Special Assessment Bonds, 6.65%, 5/01/40 (b)(c) | \$ 4,525 | \$ 2,037,834 |
| Village Community Development District No. 9, Special Assessment Bonds: | | |
| 6.75%, 5/01/31 | 1,990 | 2,293,614 |
| 7.00%, 5/01/41 | 3,225 | 3,726,520 |
| 5.50%, 5/01/42 | 1,380 | 1,456,052 |
| | | 51,890,065 |
| Georgia 3.0% | | |
| City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31 | 1,035 | 1,050,370 |
| Clayton County Development Authority, Refunding RB, Delta Air Lines Inc. Project, Series A, 8.75%, 6/01/29 | 3,365 | 4,137,402 |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33 | 2,765 | 2,866,420 |
| DeKalb County Hospital Authority Georgia, Refunding RB, Dekalb Medical Center Inc. Project, 6.13%, 9/01/40 | 2,005 | 2,252,537 |
| Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2: | | |
| 6.38%, 11/15/29 | 700 | 801,780 |
| 6.63%, 11/15/39 | 880 | 1,000,895 |
| Private Colleges & Universities Authority, Refunding RB, Mercer University Project, Series A: | | |
| 5.25%, 10/01/27 | 1,790 | 1,981,924 |
| 5.00%, 10/01/32 | 855 | 907,215 |
| | | 14,998,543 |
| Guam 0.6% | | |
| Guam Government Waterworks Authority, Refunding RB, Water & Wastewater Systems, 6.00%, 7/01/25 | 1,265 | 1,304,759 |
| Territory of Guam, GO, Series A: | | |
| 6.00%, 11/15/19 | 615 | 676,949 |
| 7.00%, 11/15/39 | 1,115 | 1,259,147 |
| | | 3,240,855 |
| Illinois 4.7% | | |
| City of Chicago Illinois, Refunding RB, American Airlines Inc. Project, 5.50%, 12/01/30 (b)(c) | 7,000 | 4,550,070 |
| Illinois Finance Authority, RB, Roosevelt University Project, 6.50%, 4/01/44 | 4,170 | 4,686,621 |

Schedule of Investments (continued)

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

| | Par (000) | Value |
|--|--------------|------------|
| Municipal Bonds | | |
| Illinois (concluded) | | |
| Illinois Finance Authority, Refunding RB: CAB, Clare Water Tower, Series B, 4.46%, 5/15/50 (a)(b)(c) | \$ 1,500 | \$ 283,650 |
| Clare Water Tower, Series A-7, 6.13%, 5/15/41 (b)(c) | 3,500 | 780,430 |
| Friendship Village Of Schaumburg, 7.25%, 2/15/45 | 4,000 | 4,402,520 |
| Primary Health Care Centers Program, 6.60%, 7/01/24 | 1,175 | 1,183,918 |
| Metropolitan Pier & Exposition Authority, Refunding RB, CAB, McCormick Place Expansion Project, Series B (AGM), 5.16%, 6/15/46 (a) | 9,860 | 1,755,672 |
| Railsplitter Tobacco Settlement Authority, RB: 5.50%, 6/01/23 | 1,400 | 1,633,688 |
| 6.00%, 6/01/28 | 710 | 826,234 |
| Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34 | 1,800 | 1,821,150 |
| Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25 | 1,465 | 1,470,772 |
| | | 23,394,725 |
| Kentucky 1.1% | | |
| Kentucky Economic Development Finance Authority, RB, Owensboro Medical Health System, Series A: 6.38%, 6/01/40 | 1,580 | 1,859,170 |
| 6.50%, 3/01/45 | 2,000 | 2,370,200 |
| Kentucky Economic Development Finance Authority, Refunding RB, Owensboro Medical Health System, Series B, 6.38%, 3/01/40 | 1,135 | 1,335,543 |
| | | 5,564,913 |
| Louisiana 1.6% | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, 6.75%, 11/01/32 | 5,000 | 5,619,750 |
| Louisiana Public Facilities Authority, RB, Belle Chasse Educational Foundation Project, 6.75%, 5/01/41 | 1,855 | 2,132,972 |
| | | 7,752,722 |
| Maine 0.7% | | |
| Maine Health & Higher Educational Facilities Authority, RB, Maine General Medical Center, 6.75%, 7/01/41 | 2,955 | 3,445,855 |

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| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| Maryland 2.6% | | |
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | \$ 3,615 | \$ 3,941,435 |
| Maryland EDC, Refunding RB, CNX Marine Terminals Inc., 5.75%, 9/01/25 | 4,785 | 5,179,619 |
| Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38 (b)(c) | 1,000 | 400,000 |
| Maryland Health & Higher Educational Facilities Authority, Refunding RB, Doctor s Community Hospital, 5.75%, 7/01/38 | 3,110 | 3,364,211 |
| | | 12,885,265 |
| Massachusetts 0.6% | | |
| Massachusetts Development Finance Agency, RB: Eastern Nazarene College, 5.63%, 4/01/19 | 35 | 35,022 |
| Foxborough Regional Charter School, Series A, 7.00%, 7/01/42 | 1,025 | 1,207,481 |
| Massachusetts Development Finance Agency, Refunding RB: Eastern Nazarene College, 5.63%, 4/01/29 | 80 | 80,010 |
| Tufts Medical Center, Series I, 6.75%, 1/01/36 | 1,490 | 1,753,506 |
| | | 3,076,019 |
| Michigan 3.0% | | |
| City of Detroit Michigan Taxable Capital Improvement, GO, Limited Tax: Series A-1, 5.00%, 4/01/16 | 650 | 593,912 |
| Series A-2, 8.00%, 4/01/14 | 3,185 | 3,038,299 |
| Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35 | 3,000 | 3,117,180 |
| Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39 | 6,310 | 8,139,332 |
| | | 14,888,723 |
| Minnesota 0.4% | | |
| City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/32 | 1,785 | 2,134,289 |
| Missouri 0.6% | | |
| Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 | 2,315 | 2,780,292 |

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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 | | |
| Nevada 0.2% | | |
| County of Clark Nevada, Special Assessment Bonds, Special Improvement District No. 142, Local Improvement, 6.38%, 8/01/23 | \$ 955 | \$ 983,650 |
| New Jersey 6.9% | | |
| New Jersey EDA, RB: Continental Airlines Inc. Project, AMT, 6.25%, 9/15/19 | 2,000 | 2,007,980 |
| Continental Airlines Inc. Project, AMT, 6.25%, 9/15/29 | 4,330 | 4,347,277 |
| Continental Airlines Inc. Project, AMT, 9.00%, 6/01/33 (e) | 1,250 | 1,319,787 |
| Kapkowski Road Landfill Project, Series 1998B-MB, AMT, 6.50%, 4/01/31 | 2,250 | 2,651,760 |
| Patterson Charter School for Science and Technology, Inc. Project, Series A, 6.10%, 7/01/44 | 1,085 | 1,134,194 |
| New Jersey EDA, Refunding RB: Cigarette Tax, 5.00%, 6/15/23 | 995 | 1,137,126 |
| Newark Airport Marriott Hotel, 7.00%, 10/01/14 | 4,000 | 4,019,480 |
| New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B: 7.13%, 12/01/23 | 670 | 839,671 |
| 7.50%, 12/01/32 | 3,575 | 4,479,189 |
| New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36 (b)(c) | 3,870 | 39 |
| New Jersey Health Care Facilities Financing Authority, Refunding RB: Barnabas Health, Series A, 5.63%, 7/01/37 | 2,650 | 2,883,120 |
| St. Joseph's Healthcare System, 6.63%, 7/01/38 | 4,090 | 4,820,188 |
| New Jersey Transportation Trust Fund Authority, RB, Transportation System, Series C (AMBAC), 4.77%, 12/15/35 (a) | 6,210 | 2,062,527 |
| Tobacco Settlement Financing Corp. New Jersey, Refunding RB, 4.50%, 6/01/23 | 3,000 | 2,853,810 |
| | | 34,556,148 |
| Municipal Bonds | | Value |

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| | Par (000) | |
|--|----------------------|--------------|
| New York 4.7% | | |
| Chautauqua County Industrial Development Agency, RB, NRG Dunkirk Power Project, 5.88%, 4/01/42 | \$ 3,695 | \$ 4,150,039 |
| Dutchess County Industrial Development Agency New York, RB, St. Francis Hospital, Series B, 7.50%, 3/01/29 | 1,000 | 1,030,150 |
| Dutchess County Industrial Development Agency New York, Refunding RB, St. Francis Hospital, Series A, 7.50%, 3/01/29 | 1,400 | 1,442,210 |
| Metropolitan Transportation Authority, RB, Series 2008C, 6.50%, 11/15/28 | 2,000 | 2,570,220 |
| New York City Industrial Development Agency, RB: American Airlines Inc., JFK International Airport, AMT, 8.00%, 8/01/28 (b)(c)(e) | 1,765 | 1,879,690 |
| British Airways Plc Project, AMT, 7.63%, 12/01/32 | 4,130 | 4,244,773 |
| Series C, 6.80%, 6/01/28 | 860 | 878,266 |
| Special Needs Facilities Pooled Program, Series C-1, 6.50%, 7/01/24 | 610 | 614,837 |
| Special Needs Facilities Pooled Program, Series C-1, 6.63%, 7/01/29 | 1,100 | 1,101,760 |
| 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 | 1,270 | 1,448,626 |
| Port Authority of New York & New Jersey, RB, JFK International Air Terminal, 6.00%, 12/01/36 | 1,340 | 1,522,655 |
| Yonkers Industrial Development Agency New York, RB, Sarah Lawrence College Project, Series A, 6.00%, 6/01/41 | 2,090 | 2,361,617 |
| | | 23,244,843 |
| North Carolina 1.5% | | |
| North Carolina Medical Care Commission, Refunding RB, First Mortgage, Series A: Deerfield, 6.13%, 11/01/38 | 4,565 | 4,977,858 |
| Whitestone, 7.75%, 3/01/31 | 1,000 | 1,145,240 |
| Whitestone, 7.75%, 3/01/41 | 1,420 | 1,610,181 |
| | | 7,733,279 |
| Ohio 2.2% | | |
| Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2, 5.13%, 6/01/24 | 3,350 | 2,802,242 |

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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 | | |
| Ohio (concluded) | | |
| County of Hamilton Ohio, RB, Christ Hospital Project, 5.00%, 6/01/42 | \$ 1,880 | \$ 1,966,085 |
| Southeastern Ohio Port Authority Hospital Facilities, Refunding RB, Refunding & Improvement-Memorial Health System, 6.00%, 12/01/42 | 935 | 986,481 |
| State of Ohio, RB, Ford Motor Co. Project, AMT, 5.75%, 4/01/35 | 4,880 | 5,043,724 |
| | | 10,798,532 |
| Oklahoma 0.3% | | |
| Oklahoma Development Finance Authority, Refunding RB, Inverness Village Community, 6.00%, 1/01/32 | 1,305 | 1,404,023 |
| Pennsylvania 6.9% | | |
| Allegheny County Hospital Development Authority, Refunding RB, Health System, West Penn, Series A, 5.38%, 11/15/40 | 3,540 | 2,890,764 |
| Bucks County IDA, RB, Ann s Choice, Inc. Facility, Series A: | | |
| 6.13%, 1/01/25 | 1,360 | 1,380,019 |
| 6.25%, 1/01/35 | 1,550 | 1,568,182 |
| Cumberland County Municipal Authority, Refunding RB, Diakon Lutheran, 6.38%, 1/01/39 | 6,165 | 6,709,678 |
| Lancaster County Hospital Authority, RB, Brethren Village Project, Series A, 6.25%, 7/01/26 | 1,160 | 1,253,902 |
| Montgomery County IDA Pennsylvania, MRB, Whitemarsh Continuing Care, 6.13%, 2/01/28 | 2,330 | 2,377,182 |
| Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Series A, AMT, 6.25%, 11/01/27 | 3,250 | 3,196,375 |
| Philadelphia Authority for Industrial Development, RB, AMT: Commercial Development, 7.75%, 12/01/17 | 8,000 | 8,012,560 |
| Subordinate, Air Cargo, Series A, 7.50%, 1/01/25 | 3,870 | 3,871,161 |
| Philadelphia Hospitals & Higher Education Facilities Authority, RB, Temple University Health System, Series A, 5.63%, 7/01/42 | 3,135 | 3,275,354 |
| | | 34,535,177 |
| Puerto Rico 2.0% | | |
| Puerto Rico Electric Power Authority, RB, Series A, 5.00%, 7/01/42 | 2,000 | 2,058,240 |
| Puerto Rico Public Buildings Authority, Refunding RB, Government Facilities, Series U, 5.25%, 7/01/42 | 3,790 | 3,869,135 |

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| | Par (000) | Value |
|--|--------------|--------------|
| Municipal Bonds | | |
| Puerto Rico (concluded) | | |
| Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44 | \$ 2,650 | \$ 3,163,384 |
| Puerto Rico Sales Tax Financing Corp., Refunding RB, First Sub-Series C, 5.73%, 8/01/38 (a) | 4,445 | 1,023,195 |
| | | 10,113,954 |
| Rhode Island 0.7% | | |
| Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 | 4,245 | 3,652,313 |
| Tennessee 0.1% | | |
| Shelby County Health Educational & Housing Facilities Board Tennessee, RB, Village at Germantown, 6.25%, 12/01/34 | 575 | 560,430 |
| Texas 12.3% | | |
| Bexar County Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 | 5,040 | 5,629,982 |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series A, AMT, 7.70%, 4/01/33 | 5,080 | 546,964 |
| Central Texas Regional Mobility Authority, Refunding RB, CAB (a): | | |
| 4.94%, 1/01/28 | 1,000 | 471,270 |
| 4.98%, 1/01/29 | 2,000 | 892,060 |
| 5.08%, 1/01/30 | 1,170 | 488,604 |
| 5.16%, 1/01/31 | 2,000 | 782,200 |
| 5.25%, 1/01/32 | 3,500 | 1,279,110 |
| 5.35%, 1/01/33 | 3,690 | 1,255,707 |
| 5.41%, 1/01/34 | 4,000 | 1,275,120 |
| Central Texas Regional Mobility Authority, Refunding RB, Senior Lien: | | |
| 5.75%, 1/01/25 | 675 | 775,811 |
| 6.25%, 1/01/46 | 2,210 | 2,562,296 |
| City of Houston Texas, RB, Special Facilities, AMT: | | |
| Continental Airlines, Series E, 6.75%, 7/01/21 | 4,550 | 4,567,108 |
| Continental Airlines Inc. Terminal Improvement Projects, 6.63%, 7/15/38 | 2,890 | 3,157,990 |
| Clifton Higher Education Finance Corp., ERB, Idea Public Schools: | | |
| 5.50%, 8/01/31 | 955 | 1,058,923 |
| 5.75%, 8/01/41 | 720 | 796,356 |
| Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B: | | |
| 7.13%, 12/01/31 | 1,500 | 1,822,545 |
| 7.25%, 12/01/35 | 1,110 | 1,348,062 |

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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) | | |
| Houston Higher Education Finance Corp., RB, Cosmos Foundation, Inc., Series A, 6.88%, 5/15/41 | \$ 595 | \$ 734,087 |
| La Vernia Higher Education Finance Corp., RB, KIPP Inc., Series A, 6.38%, 8/15/44 | 860 | 1,003,723 |
| Love Field Airport Modernization Corp., RB, Southwest Airlines Co. Project, 5.25%, 11/01/40 | 1,500 | 1,618,530 |
| Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29 | 2,090 | 2,427,598 |
| North Texas Education Finance Corp., ERB, Uplift Education, Series A: 5.13%, 12/01/42 | 745 | 786,474 |
| 5.25%, 12/01/47 | 1,600 | 1,691,792 |
| North Texas Tollway Authority, RB, CAB, Special Projects System, Series B, 5.39%, 9/01/37 (a) | 2,110 | 556,449 |
| North Texas Tollway Authority, Refunding RB, Toll Second Tier, Series F, 6.13%, 1/01/31 | 4,425 | 4,893,475 |
| Red River Health Facilities Development Corp., First MRB, Eden Home Inc. Project, 7.25%, 12/15/42 | 2,895 | 3,077,066 |
| Tarrant County Cultural Education Facilities Finance Corp., RB, Series A: CC Young Memorial Home, 8.00%, 2/15/38 | 1,745 | 1,922,990 |
| Senior Living Center Project, 8.25%, 11/15/44 | 4,200 | 4,708,662 |
| 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 | 5,438,664 |
| NTE Mobility Partners LLC, North Tarrant Express, Managed Lanes Project, 6.88%, 12/31/39 | 3,000 | 3,601,980 |
| | | 61,171,598 |
| Vermont 0.2% | | |
| Vermont EDA, Refunding MRB, Wake Robin Corp. Project, Series A, 5.40%, 5/01/33 | 770 | 805,820 |
| Virginia 3.6% | | |
| Dulles Town Center Community Development Authority, Special Assessment Bonds, Dulles Town Center Project, 6.25%, 3/01/26 | 3,515 | 3,518,585 |

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| | Par (000) | Value |
|---|--------------|--------------|
| Municipal Bonds | | |
| Virginia (concluded) | | |
| Fairfax County EDA, Refunding RB, Goodwin House Inc., 5.13%, 10/01/42 | \$ 2,500 | \$ 2,560,750 |
| Lexington IDA, Refunding MRB, Kendal at Lexington, Series A, 5.38%, 1/01/28 | 40 | 40,681 |
| Mosaic District Community Development Authority, RB, Special Assessment, Series A: 6.63%, 3/01/26 | 1,485 | 1,658,255 |
| 6.88%, 3/01/36 | 1,300 | 1,450,098 |
| Virginia Small Business Financing Authority, RB, Senior Lien, Elizabeth River Crossing Project, AMT: 5.25%, 1/01/32 | 810 | 876,323 |
| 6.00%, 1/01/37 | 5,705 | 6,515,738 |
| 5.50%, 1/01/42 | 1,175 | 1,294,803 |
| | | 17,915,233 |
| Washington 0.3% | | |
| King County, Washington Public Hospital District No. 4, GO, Refunding, Snoqualmie Valley Hospital, 7.00%, 12/01/40 | 1,455 | 1,599,132 |
| Wisconsin 0.8% | | |
| Wisconsin Health & Educational Facilities Authority, RB, New Castle Place Project, Series A, 7.00%, 12/01/31 | 3,175 | 2,333,307 |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A: 7.25%, 9/15/29 | 425 | 488,533 |
| 7.63%, 9/15/39 | 855 | 991,638 |
| | | 3,813,478 |
| Total Municipal Bonds 86.7% | | 432,047,174 |
| Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (f) | | |
| Colorado 2.5% | | |
| Colorado Health Facilities Authority, Refunding RB, Sisters of Leavenworth, Series A, 5.00%, 1/01/40 | 11,475 | 12,504,422 |
| District of Columbia 1.6% | | |
| District of Columbia Water & Sewer Authority, Refunding RB, Series A, 6.00%, 10/01/35 | 6,681 | 8,132,857 |
| Florida 3.3% | | |
| County of Miami-Dade Florida, RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33 | 15,000 | 16,142,250 |

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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 Transferred to Tender Option Bond (TOB) Trusts (f) | | |
| Illinois 3.1% | | |
| City of Chicago Illinois, RB, General Airport, Third Lien, Series A (NPPGC), 5.00%, 1/01/33 | \$ 6,510 | \$ 6,936,210 |
| Illinois Finance Authority, RB, Carle Foundation, Series A (AGM), 6.00%, 8/15/41 | 7,180 | 8,313,291 |
| | | 15,249,501 |
| Michigan 0.9% | | |
| Detroit Water and Sewerage Department, Refunding RB, Senior Lien, Series A: | | |
| 5.00%, 7/01/32 | 1,613 | 1,696,137 |
| 5.25%, 7/01/39 | 2,786 | 2,938,201 |
| | | 4,634,338 |
| New York 11.6% | | |
| Hudson New York Yards Infrastructure Corp., RB, Series A, 5.75%, 2/15/47 | 4,520 | 5,297,307 |
| New York City Municipal Water Finance Authority, Refunding RB, Water & Sewer System, Second General Resolution: | | |
| Series EE, 5.50%, 6/15/43 | 7,605 | 9,065,160 |
| Series HH, 5.00%, 6/15/31 | 8,609 | 10,124,427 |
| New York Liberty Development Corp., RB, 1 World Trade Center Port Authority Construction, 5.25%, 12/15/43 | 18,105 | 20,883,212 |
| New York Liberty Development Corp., Refunding RB, 4 World Trade Center Project, 5.75%, 11/15/51 | 6,600 | 7,808,790 |
| New York State Dormitory Authority, ERB, Series F, 5.00%, 3/15/35 | 4,004 | 4,356,934 |
| | | 57,535,830 |
| Washington 1.8% | | |
| City of Bellingham Washington, RB, Water & Sewer, 5.00%, 8/01/40 | 7,966 | 9,059,969 |
| Total Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts 24.8% | | 123,259,167 |
| Total Long-Term Investments (Cost \$518,758,217) 111.5% | | 555,306,341 |
| Short-Term Securities | | |
| FFI Institutional Tax-Exempt Fund, 0.01% (g)(h) | 1,151,560 | \$ 1,151,560 |
| Total Short-Term Securities (Cost \$1,151,560) 0.2% | | 1,151,560 |
| Total Investments (Cost - \$519,909,777*) 111.7% | | 556,457,901 |
| Other Assets Less Liabilities 1.2% | | 5,995,745 |
| Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (12.9)% | | (64,192,427) |
| Net Assets 100.0% | | \$ 498,261,219 |

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* As of July 31, 2012, gross unrealized appreciation and gross unrealized depreciation based on cost for federal income tax purposes were as follows:

| | |
|-------------------------------|----------------|
| Tax cost | \$ 455,290,739 |
| Gross unrealized appreciation | \$ 57,906,621 |
| Gross unrealized depreciation | (20,888,713) |
| Net unrealized appreciation | \$ 37,017,908 |

- (a) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (b) Issuer filed for bankruptcy and/or is in default of principal and/or interest payments.
- (c) Non-income producing security.
- (d) 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.
- (e) Variable rate security. Rate shown is as of report date.
- (f) 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.
- (g) Investments in companies considered to be an affiliate of the Fund during the period, 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, 2012 | Net Activity | Shares Held at July 31, 2012 | Income |
|---|-------------------------------------|-----------------|------------------------------------|--------|
| FFI Institutional Tax-Exempt Fund | 3,404,970 | (2,253,410) | 1,151,560 | \$ 162 |

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

Schedule of Investments (concluded)

BlackRock MuniAssets Fund, Inc. (MUA)

Portfolio Abbreviations

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

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

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

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)

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 annual report.

The following table summarizes the Fund's investments categorized in the disclosure hierarchy as of July 31, 2012:

| | Level 1 | Level 2 | Level 3 | Total |
|--------------------------|--------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments: | | | | |
| Long-Term | | | | |
| Investments ¹ | | \$ 555,306,341 | | \$ 555,306,341 |
| Short-Term | | | | |
| Securities | \$ 1,151,560 | | | 1,151,560 |
| Total | \$ 1,151,560 | \$ 555,306,341 | | \$ 556,457,901 |

¹ See 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 July 31, 2012, such liabilities are categorized within the disclosure hierarchy as follows:

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| | Level 1 | Level 2 | Level 3 | Total |
|------------------------|---------|-----------------|---------|-----------------|
| Liabilities: | | | | |
| Bank overdraft | | \$ (53) | | \$ (53) |
| TOB trust certificates | | (64,149,254) | | (64,149,254) |
| Total | | \$ (64,149,307) | | \$ (64,149,307) |

There were no transfers between levels during the period ended July 31, 2012.

BLACKROCK MUNIASSETS FUND, INC.

JULY 31, 2012

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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: September 25, 2012

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, 2012

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

Date: September 25, 2012

