

BLACKROCK MUNIASSETS FUND, INC.
Form N-Q
March 29, 2011
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: 04/30/2011

Date of reporting period: 01/31/2011

Item 1 Schedule of Investments

Schedule of Investments January 31, 2011 (Unaudited)

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

| Municipal Bonds | Par (000) | Value |
|---|--------------|--------------|
| Alabama 0.7% | | |
| Alabama State Docks Department, Refunding RB, 6.00%, 10/01/40 | \$ 1,285 | \$ 1,257,013 |
| County of Jefferson Alabama, RB, Series A, 5.25%, 1/01/17 | 530 | 502,837 |
| | | 1,759,850 |
| Alaska 0.2% | | |
| Alaska Industrial Development & Export Authority, RB, Williams Lynxs, Alaska Cargoport, AMT, 7.80%, 5/01/14 | 395 | 385,007 |
| Arizona 5.2% | | |
| Maricopa County IDA Arizona, RB, Arizona Charter Schools Project, Series A, 6.63%, 7/01/20 | 1,520 | 1,158,605 |
| Phoenix IDA Arizona, Refunding RB, America West Airlines Inc. Project, AMT, 6.30%, 4/01/23 | 4,800 | 3,938,736 |
| Pima County IDA, RB: Arizona Charter Schools Project, Series E, 7.25%, 7/01/31 | 1,365 | 1,327,408 |
| Tucson Electric Power Co., Series A, 5.25%, 10/01/40 | 2,380 | 2,103,944 |
| Pima County IDA, Refunding RB, Charter Schools II, Series A, 6.75%, 7/01/31 | 670 | 615,556 |
| Salt Verde Financial Corp., RB, Senior: 5.00%, 12/01/32 | 1,840 | 1,583,504 |
| 5.00%, 12/01/37 | 1,350 | 1,144,017 |
| Show Low Improvement District, Special Assessment Bonds, District No. 5, 6.38%, 1/01/15 | 575 | 576,270 |
| University Medical Center Corp., Arizona, RB: 6.25%, 7/01/29 | 280 | 285,482 |
| 6.50%, 7/01/39 | 500 | 511,990 |
| | | 13,245,512 |
| Arkansas 0.4% | | |
| County of Little River Arkansas, Refunding RB, Georgia-Pacific Corp. Project, AMT, 5.60%, 10/01/26 | 1,030 | 942,471 |
| California 3.2% | | |
| California Statewide Communities Development Authority, Refunding RB: | 1,290 | 1,178,247 |

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American Baptist Homes of the
West, 6.25%, 10/01/39

| Municipal Bonds | Par (000) | Value |
|--|--------------|------------|
| California (concluded) | | |
| California Statewide Communities Development Authority, Refunding RB (concluded): | | |
| Senior Living, Southern California, 7.00%, 11/15/29 | \$ 600 | \$ 614,526 |
| Senior Living, Southern California, 7.25%, 11/15/41 | 2,060 | 2,131,276 |
| City of Fontana California, Special Tax Bonds, Refunding, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34 | 1,320 | 1,146,750 |
| State of California, GO, Various Purpose, 6.00%, 3/01/33 | 3,075 | 3,128,628 |
| | | 8,199,427 |
| Colorado 1.6% | | |
| Colorado Health Facilities Authority, Refunding RB, Total Longterm Care National Obligated Group Project, Series A, 6.00%, 11/15/30 | 610 | 565,378 |
| E-470 Public Highway Authority, Refunding RB, CAB, 7.08%, 9/01/35 (a) | 2,190 | 336,209 |
| Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Tax Increment: | | |
| Public Improvement Fee, 8.00%, 12/01/25 | 2,850 | 2,763,645 |
| Subordinate Public Improvement Fee, 8.13%, 12/01/25 | 525 | 465,014 |
| | | 4,130,246 |
| Connecticut 2.9% | | |
| Connecticut State Development Authority, RB, AFCO Cargo BDL LLC Project, AMT, 8.00%, 4/01/30 | 3,490 | 3,154,262 |
| Harbor Point Infrastructure Improvement District, Tax Allocation Bonds, Harbor Point Project, Series A, 7.88%, 4/01/39 | 2,340 | 2,357,480 |
| Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31 | 2,610 | 1,988,533 |
| | | 7,500,275 |

Portfolio Abbreviations

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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:

| | |
|-------|---|
| ACA | ACA Financial Guaranty Corp. |
| 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 |
| HDA | Housing Development Authority |
| IDA | Industrial Development Authority |
| MRB | Mortgage Revenue Bonds |
| NPFGC | National Public Finance Guarantee Corp. |
| RB | Revenue Bonds |
| TE | Tax-Exempt |
| TIF | Tax Increment Financing |

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2011

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Schedule of Investments (continued)

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

| Municipal Bonds | Par (000) | Value |
|--|--------------|------------------|
| Delaware 1.2% | | |
| County of Sussex Delaware, RB, NRG Energy, Inc., Indian River Project, 6.00%, 10/01/40 | \$ 1,000 | \$ 959,840 |
| Delaware State EDA, RB, Exempt Facilities, Indian River Power, 5.38%, 10/01/45 | 2,505 | 2,208,057 |
| | | <u>3,167,897</u> |
| District of Columbia 2.1% | | |
| District of Columbia, RB, Methodist Home District of Columbia, Series A: 7.38%, 1/01/30 | 985 | 963,822 |
| 7.50%, 1/01/39 | 1,615 | 1,574,367 |
| District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33 | 1,055 | 1,012,969 |
| Metropolitan Washington Airports Authority, RB, CAB, Second Senior Lien, Series B (AGC), 6.55%, 10/01/30 (a) | 7,000 | 1,875,580 |
| | | <u>5,426,738</u> |
| Florida 9.0% | | |
| County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A-1, 5.38%, 10/01/41 | 705 | 653,880 |
| Greater Orlando Aviation Authority Florida, RB, Special Purpose, JetBlue Airways Corp., AMT, 6.38%, 11/15/26 | 1,180 | 1,080,585 |
| Harbor Bay Community Development District Florida, Special Assessment Bonds, Series A, 7.00%, 5/01/33 | 455 | 420,807 |
| Hillsborough County IDA, RB, AMT, National Gypsum Co.: | | |
| Series A, 7.13%, 4/01/30 | 2,000 | 1,777,860 |
| Series B, 7.13%, 4/01/30 | 1,540 | 1,368,952 |
| Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37 | 1,300 | 990,925 |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17 | 765 | 764,541 |
| | 2,620 | 1,971,891 |

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| | | |
|---|-------|-----------|
| Lee County IDA Florida, RB, Series A, Lee Charter Foundation, 5.38%, 6/15/37 | | |
| Mid-Bay Bridge Authority, RB, Series A, 7.25%, 10/01/40 (b) | 2,695 | 2,647,891 |
| Midtown Miami Community Development District, Special Assessment Bonds, Series A, 6.25%, 5/01/37 | 3,255 | 2,850,827 |
| Palm Beach County Health Facilities Authority, RB, Acts Retirement Life Community, 5.50%, 11/15/33 | 2,000 | 1,814,320 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28 | 3,040 | 1,404,662 |
| Sarasota County Health Facilities Authority, Refunding RB, Village on the Isle Project: 5.50%, 1/01/27 | 585 | 501,035 |
| 5.50%, 1/01/32 | 795 | 654,436 |

| Municipal Bonds | Par (000) | Value |
|--|--------------|-------------------|
| Florida (concluded) | | |
| Sarasota County Public Hospital District, RB, Sarasota Memorial Hospital Project, Series A, 5.63%, 7/01/39 | \$ 615 | \$ 602,583 |
| Sumter Landing Community Development District Florida, RB, Sub- Series B, 5.70%, 10/01/38 | 2,350 | 1,757,401 |
| Tolomato Community Development District, Special Assessment Bonds, Special Assessment, 6.65%, 5/01/40 | 2,680 | 1,776,599 |
| | | <u>23,039,195</u> |

| | | |
|--|-------|------------------|
| Georgia 3.2% | | |
| City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31 | 640 | 521,139 |
| Clayton County Development Authority, RB, Delta Air Lines Inc. Project, Series A, 8.75%, 6/01/29 | 1,990 | 2,260,520 |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33 | 1,655 | 1,470,716 |
| DeKalb County Hospital Authority Georgia, RB, DeKalb Medical Center Inc. Project, 6.13%, 9/01/40 | 1,100 | 1,000,659 |
| Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2: 6.38%, 11/15/29 | 700 | 694,246 |
| 6.63%, 11/15/39 | 235 | 233,623 |
| Rockdale County Development Authority, RB, Visy Paper Project, Series A, AMT, 6.13%, 1/01/34 | 2,435 | 2,125,731 |
| | | <u>8,306,634</u> |

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Guam 1.5%

| | | |
|---|-------|------------------|
| Guam Government Waterworks Authority, Refunding RB, Water, 6.00%, 7/01/25 | 750 | 744,600 |
| Territory of Guam, GO, Series A: 6.00%, 11/15/19 | 365 | 371,694 |
| 6.75%, 11/15/29 | 635 | 670,192 |
| 7.00%, 11/15/39 | 660 | 704,675 |
| Territory of Guam, RB, Section 30, Series A, 5.63%, 12/01/29 | 1,460 | 1,404,958 |
| | | <u>3,896,119</u> |

Illinois 6.0%

| | | |
|--|-------|-----------|
| City of Chicago Illinois, Refunding RB, American Airlines Inc. Project, 5.50%, 12/01/30 | 4,140 | 3,165,899 |
| Illinois Finance Authority, RB: Navistar International, Recovery Zone, 6.50%, 10/15/40 | 950 | 945,298 |
| Roosevelt University Project, 6.50%, 4/01/44 | 2,470 | 2,446,486 |
| Rush University Medical Center Obligation Group, Series B, 7.25%, 11/01/30 | 1,170 | 1,243,055 |
| Illinois Finance Authority, Refunding RB: CAB, Clare Water Tower, Series B, 0.04%, 5/15/50 (a) | 885 | 10,974 |
| Clare Water Tower, Series A-7, 6.13%, 5/15/41 | 2,065 | 1,182,006 |

Schedule of Investments (continued)

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

| Municipal Bonds | Par (000) | Value |
|--|--------------|-------------------|
| Illinois (concluded) | | |
| Illinois Finance Authority, Refunding RB (concluded): | | |
| Friendship Village of Schaumburg, 7.25%, 2/15/45 | \$ 2,370 | \$ 2,212,466 |
| Primary Health Care Centers Program, 6.60%, 7/01/24 | 685 | 575,859 |
| Metropolitan Pier & Exposition Authority, Refunding RB, CAB, McCormick Place Expansion Project, Series B (AGM), 6.25%, 6/15/46 (a) | 5,845 | 510,911 |
| Railsplitter Tobacco Settlement Authority, RB: 5.50%, 6/01/23 | 830 | 785,819 |
| 6.00%, 6/01/28 | 710 | 677,581 |
| Village of Lincolnshire Illinois, Special Tax Bonds, Sedgebrook Project, 6.25%, 3/01/34 | 1,070 | 878,941 |
| Village of Wheeling Illinois, Tax Allocation Bonds, North Milwaukee/Lake-Cook TIF Project, 6.00%, 1/01/25 | 825 | 724,985 |
| | | <u>15,360,280</u> |
| Indiana 0.4% | | |
| Vigo County Hospital Authority Indiana, RB, Union Hospital Inc. (c): | | |
| 5.70%, 9/01/37 | 615 | 505,007 |
| 5.75%, 9/01/42 | 765 | 624,164 |
| | | <u>1,129,171</u> |
| Kentucky 0.3% | | |
| Kentucky Economic Development Finance Authority, Refunding RB, Owensboro Medical Health System, Series A, 6.38%, 6/01/40 | 935 | 877,928 |
| Louisiana 1.2% | | |
| Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, 6.75%, 11/01/32 | 3,000 | 3,022,500 |

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| Maryland 2.8% | | |
|--|-------|------------------|
| Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35 | 2,145 | 1,954,331 |
| Maryland EDC, Refunding RB, CNX Marine Terminals, Inc., 5.75%, 9/01/25 | 2,435 | 2,266,596 |
| Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38 (d)(e) | 590 | 235,994 |
| Maryland Health & Higher Educational Facilities Authority, Refunding RB, Doctor s Community Hospital, 5.75%, 7/01/38 | 1,845 | 1,551,682 |
| Maryland State Energy Financing Administration, RB, Cogeneration, AES Warrior Run, AMT, 7.40%, 9/01/19 | 1,080 | 1,076,857 |
| | | <u>7,085,460</u> |

| Municipal Bonds | Par (000) | Value |
|--|----------------------|------------------|
| Massachusetts 0.7% | | |
| Massachusetts Development Finance Agency, RB, Foxborough Regional Charter School, Series A, 7.00%, 7/01/42 | \$ 610 | \$ 613,288 |
| Massachusetts Development Finance Agency, Refunding RB, Eastern Nazarene College, 5.63%, 4/01/29 | 80 | 68,633 |
| Massachusetts Health & Educational Facilities Authority, RB, Jordan Hospital, Series E, 6.75%, 10/01/33 | 1,150 | 1,039,784 |
| | | <u>1,721,705</u> |

| Michigan 2.7% | | |
|--|-------|------------------|
| Advanced Technology Academy, RB, 6.00%, 11/01/37 | 900 | 732,681 |
| County of Wayne Michigan, GO, Building Improvement, Series A, 6.75%, 11/01/39 | 540 | 540,999 |
| Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35 | 1,740 | 1,359,566 |
| Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39 | 3,735 | 4,158,960 |
| | | <u>6,792,206</u> |

| Minnesota 0.7% | | |
|--|-------|-----------|
| City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series A, 6.75%, 11/15/32 | 1,785 | 1,897,901 |

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Missouri 0.5%

| | | |
|---|-------|-----------|
| Kirkwood IDA Missouri, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 | 1,370 | 1,379,412 |
|---|-------|-----------|

Multi-State 0.3%

| | | |
|--|-----|---------|
| MuniMae TE Bond Subsidiary LLC, 7.50%, 6/30/49 (c)(f)(g) | 919 | 854,238 |
|--|-----|---------|

Nevada 0.2%

| | | |
|---|-----|---------|
| County of Clark Nevada, Special Assessment Bonds, Special Improvement District No. 142, Local Improvement, 6.38%, 8/01/23 | 600 | 540,462 |
|---|-----|---------|

New Hampshire 0.4%

| | | |
|--|-------|---------|
| New Hampshire Health & Education Facilities Authority, RB, Catholic Medical Center, 5.00%, 7/01/36 | 1,165 | 923,519 |
|--|-------|---------|

New Jersey 6.4%

| | | |
|--|-------|-----------|
| New Jersey EDA, RB, Continental Airlines Inc. Project, AMT: | | |
| 6.63%, 9/15/12 | 1,000 | 1,005,760 |
| 6.25%, 9/15/19 | 2,000 | 1,891,560 |
| 6.40%, 9/15/23 | 1,000 | 945,030 |
| 6.25%, 9/15/29 | 3,330 | 3,014,283 |
| 9.00%, 6/01/33 (g) | 1,250 | 1,303,012 |
| New Jersey EDA, Refunding RB, Newark Airport Marriott Hotel, 7.00%, 10/01/14 | 2,500 | 2,485,700 |
| New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B, 7.50%, 12/01/32 | 2,510 | 2,716,673 |

BLACKROCK MUNIASSETS FUND, INC.

JANUARY 31, 2011

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Schedule of Investments (continued)

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

| Municipal Bonds | Par (000) | Value |
|--|--------------|------------|
| New Jersey (concluded) | | |
| New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36 (d)(e) | \$ 2,000 | \$ 20 |
| New Jersey Health Care Facilities Financing Authority, Refunding RB, St. Joseph's Healthcare System, 6.63%, 7/01/38 | 2,410 | 2,363,583 |
| New Jersey Transportation Trust Fund Authority, RB, CAB, Transportation System, Series C (AMBAC), 5.05%, 12/15/35 (a) | 3,450 | 634,973 |
| | | 16,360,594 |
| New York 9.0% | | |
| Brooklyn Arena Local Development Corp., RB, Barclays Center Project, 6.38%, 7/15/43 | 1,000 | 973,400 |
| Chautauqua County Industrial Deve- lopment Agency, RB, NRG Dunkirk Power Project, 5.88%, 4/01/42 | 2,485 | 2,341,367 |
| Dutchess County Industrial Development Agency New York, Refunding RB, St. Francis Hospital, Series A, 7.50%, 3/01/29 | 1,400 | 1,319,556 |
| Metropolitan Transportation Authority, RB, Series 2008C, 6.50%, 11/15/28 | 3,685 | 4,030,174 |
| New York City Industrial Development Agency, RB: American Airlines Inc., JFK International Airport, AMT, 8.00%, 8/01/28 (g) | 1,045 | 1,099,194 |
| British Airways Plc Project, AMT, 7.63%, 12/01/32 | 2,400 | 2,404,752 |
| Series C, 6.80%, 6/01/28 | 510 | 524,540 |
| Special Needs Facilities Pooled Program, Series C-1, 6.63%, 7/01/29 | 1,100 | 953,436 |
| New York City Municipal Water Finance Authority, RB, Second General Resolution, Series EE, 5.50%, 6/15/43 | 4,510 | 4,567,953 |
| New York Liberty Development Corp., Refunding RB, Second Priority, Bank of America Tower at One Bryant Park Project, 6.38%, 7/15/49 | 750 | 753,772 |
| New York State Dormitory Authority, RB, NYU Hospital Center, Series A, 6.00%, | 1,325 | 1,292,763 |

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7/01/40

| | | |
|---|-----|---------|
| Port Authority of New York & New Jersey, RB, JFK International Air Terminal: | | |
| 6.00%, 12/01/36 | 795 | 762,540 |
| 6.00%, 12/01/42 | 775 | 731,499 |

| | | |
|---|-------|-----------|
| Yonkers Industrial Development Agency New York, RB, Sarah Lawrence College Project, Series A, 6.00%, 6/01/41 | 1,240 | 1,219,466 |
|---|-------|-----------|

22,974,412

North Carolina 1.5%

| | | |
|--|-----|---------|
| North Carolina Capital Facilities Finance Agency, RB, Duke Energy Carolinas, Series B, 4.38%, 10/01/31 | 985 | 878,167 |
|--|-----|---------|

Municipal Bonds

**Par
(000)**

Value

North Carolina (concluded)

| | | |
|--|--------|------------|
| North Carolina Capital Facilities Finance Agency, Refunding RB, Duke Energy Carolinas, Series B, 4.63%, 11/01/40 | \$ 985 | \$ 869,223 |
| North Carolina Medical Care Commission, Refunding RB, First Mortgage, Deerfield, Series A, 6.13%, 11/01/38 | 2,335 | 2,185,957 |

3,933,347

Ohio 1.7%

| | | |
|---|-------|-----------|
| Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2, 5.13%, 6/01/24 | 2,245 | 1,686,736 |
| State of Ohio, RB, Ford Motor Co. Project, AMT, 5.75%, 4/01/35 | 2,890 | 2,603,023 |

4,289,759

Pennsylvania 8.0%

| | | |
|---|-------|-----------|
| Allegheny County Hospital Development Authority, Refunding RB, Health System, West Penn, Series A, 5.38%, 11/15/40 | 3,040 | 2,020,262 |
| Bucks County IDA, RB, Ann s Choice Inc. Facility, Series A: 6.13%, 1/01/25 | 200 | 189,508 |
| 6.25%, 1/01/35 | 1,550 | 1,373,579 |
| Cumberland County Municipal Authority, RB, Diakon Lutheran, 6.38%, 1/01/39 | 3,655 | 3,536,907 |
| Lancaster County Hospital Authority, RB, Brethren Village Project, Series A: 6.25%, 7/01/26 | 685 | 652,442 |
| 6.50%, 7/01/40 | 990 | 882,635 |
| Montgomery County IDA Pennsylvania, MRB, Whitmarsh Continuing Care, 6.13%, 2/01/28 | 2,330 | 1,981,432 |

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| | | |
|--|-------|-------------------|
| Pennsylvania Economic Development Financing Authority, RB, National Gypsum Co., Series A, AMT, 6.25%, 11/01/27 | 3,250 | 2,654,860 |
| Philadelphia Authority for Industrial Development, RB, AMT: Commercial Development, 7.75%, 12/01/17 | 5,000 | 5,002,300 |
| Subordinate, Air Cargo, Series A, 7.50%, 1/01/25 | 2,270 | 2,120,452 |
| | | <u>20,414,377</u> |
| Puerto Rico 0.8% | | |
| Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44 | 1,650 | 1,707,634 |
| Puerto Rico Sales Tax Financing Corp., Refunding RB, CAB, First Sub-Series C, 6.52%, 8/01/38 (a) | 2,630 | 415,935 |
| | | <u>2,123,569</u> |
| Rhode Island 0.8% | | |
| Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35 | 2,495 | 1,996,424 |

Schedule of Investments (continued)

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

| Municipal Bonds | Par (000) | Value |
|--|--------------|------------------|
| South Carolina 0.4% | | |
| Connector 2000 Association Inc., RB, CAB, Senior Series B, 12.48%, 1/01/14 (a)(d)(e) | \$ 1,485 | \$ 170,463 |
| South Carolina Jobs-EDA, Refunding RB, Palmetto Health, 5.50%, 8/01/26 | 975 | 922,867 |
| | | <u>1,093,330</u> |
| Tennessee 0.5% | | |
| Knox County Health Educational & Housing Facilities Board Tennessee, Refunding RB, Covenant, Series A (AGM), 4.69%, 1/01/40 (a) | 5,820 | 978,807 |
| Shelby County Health Educational & Housing Facilities Board, RB, Village at Germantown, 6.25%, 12/01/34 | 355 | 284,366 |
| | | <u>1,263,173</u> |
| Texas 11.3% | | |
| Bexar County Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 | 2,985 | 2,796,438 |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series, AMT, 7.70%, 4/01/33 | 2,550 | 886,686 |
| Central Texas Regional Mobility Authority, RB: | | |
| CAB, 7.56%, 1/01/29 (a) | 2,000 | 555,440 |
| CAB, 7.65%, 1/01/30 (a) | 1,170 | 293,272 |
| CAB, 7.71%, 1/01/31 (a) | 2,000 | 462,380 |
| CAB, 7.77%, 1/01/32 (a) | 3,500 | 753,340 |
| CAB, 7.78%, 1/01/33 (a) | 1,540 | 308,000 |
| Senior Lien, 5.75%, 1/01/25 | 650 | 626,470 |
| City of Houston Texas, RB, Special Facilities, Continental Airlines, Series E, AMT, 6.75%, 7/01/21 | 2,685 | 2,616,425 |
| Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.13%, 12/01/31 | 1,500 | 1,610,850 |
| La Vernia Higher Education Finance Corp., RB, KIPP Inc., 6.38%, 8/15/44 | 860 | 840,779 |
| Love Field Airport Modernization Corp., RB, Southwest Airlines Co. Project, | 3,975 | 3,493,747 |

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| | | |
|--|-------|-----------|
| 5.25%, 11/01/40 Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29 | 1,240 | 1,254,074 |
| North Texas Tollway Authority, RB, Toll, Second Tier, Series F, 6.13%, 1/01/31 | 2,775 | 2,778,885 |
| Tarrant County Cultural Education Facilities Finance Corp., RB, Series A: CC Young Memorial Home, 8.00%, 2/15/38 | 1,035 | 1,031,533 |
| Senior Living Center Project, 8.25%, 11/15/44 | 2,490 | 2,357,632 |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien: LBJ Infrastructure Group LLC, LBJ Freeway Managed Lanes Project, 7.00%, 6/30/40 | 2,640 | 2,657,846 |

| Municipal Bonds | Par (000) | Value |
|---|--------------|--------------|
| 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 | \$ 2,330 | \$ 2,322,567 |
| Texas State Public Finance Authority, Refunding, ERB, KIPP Inc., Series A (ACA): 5.00%, 2/15/28 | 575 | 500,825 |
| 5.00%, 2/15/36 | 850 | 694,263 |
| | | 28,841,452 |
| U.S. Virgin Islands 1.2% | | |
| United States Virgin Islands, Refunding RB, Senior Secured, Hovensa Coker Project, AMT, 6.50%, 7/01/21 | 3,000 | 2,978,100 |
| Utah 0.7% | | |
| County of Carbon Utah, Refunding RB, Laidlaw Environmental, Series A, AMT, 7.45%, 7/01/17 | 1,660 | 1,662,955 |
| Vermont 0.3% | | |
| Vermont Economic Development Authority, Refunding MRB, Wake Robin Corp. Project, Series A (ACA), 6.30%, 3/01/33 | 950 | 838,955 |
| Virginia 0.9% | | |
| Dulles Town Center Community Development Authority, Special Assessment Bonds, Dulles Town Center Project, 6.25%, 3/01/26 | 1,410 | 1,316,066 |

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Fairfax County EDA, Refunding RB,

Goodwin House Inc.:

| | | |
|---|-----|---------|
| 5.13%, 10/01/37 | 585 | 498,713 |
| 5.13%, 10/01/42 | 450 | 375,669 |
| Lexington IDA, Refunding MRB, Kendal at Lexington, Series A, 5.38%, 1/01/28 | 40 | 32,352 |

2,222,800

Wisconsin 2.1%

Wisconsin Health & Educational

Facilities Authority, RB:

New Castle Place Project, Series A,

| | | |
|-----------------|-------|-----------|
| 7.00%, 12/01/31 | 1,855 | 1,466,359 |
|-----------------|-------|-----------|

Wheaton Franciscan Healthcare,

| | | |
|----------------|-------|-----------|
| 5.25%, 8/15/34 | 3,695 | 3,110,746 |
|----------------|-------|-----------|

Wisconsin Health & Educational

Facilities Authority, Refunding RB, St.

John's Communities Inc., Series A:

| | | |
|----------------|-----|---------|
| 7.25%, 9/15/29 | 250 | 247,080 |
|----------------|-----|---------|

| | | |
|----------------|-----|---------|
| 7.63%, 9/15/39 | 505 | 504,758 |
|----------------|-----|---------|

5,328,943

Wyoming 1.3%

County of Sweetwater Wyoming,

Refunding RB, FMC Corp. Project,

| | | |
|----------------------|-------|-----------|
| AMT, 5.60%, 12/01/35 | 3,600 | 3,392,856 |
|----------------------|-------|-----------|

| | | |
|------------------------------------|--|-------------|
| Total Municipal Bonds 94.3% | | 241,299,199 |
|------------------------------------|--|-------------|

Schedule of Investments (concluded)

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

| Municipal Bonds Transferred to Tender Option Bond Trusts (h) | Par (000) | Value |
|---|--------------|--------------|
| District of Columbia 1.6% | | |
| District of Columbia Water & Sewer Authority, RB, Series A, 6.00%, 10/01/35 | \$ 3,951 | \$ 4,269,806 |
| Florida 3.2% | | |
| County of Miami-Dade Florida, RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33 | 8,870 | 8,153,659 |
| Virginia 3.4% | | |
| Virginia HDA, RB, Sub-Series H-1 (NPFGC), 5.38%, 7/01/36 | 8,690 | 8,692,867 |
| Total Municipal Bonds Transferred to Tender Option Bond Trusts 8.2% | | 21,116,332 |
| Total Long-Term Investments (Cost \$277,348,751) 102.5% | | 262,415,531 |

| Short-Term Securities | Shares | |
|---|-----------|----------------|
| FFI Institutional Tax-Exempt Fund, 0.16% (i)(j) | 4,352,003 | 4,352,003 |
| Total Short-Term Securities (Cost \$4,352,003) 1.7% | | 4,352,003 |
| Total Investments (Cost \$281,700,754*) 104.2% | | 266,767,534 |
| Liabilities in Excess of Other Assets 0.0% | | (40,029) |
| Liability for Trust Certificates, Including Interest Expense and Fees Payable (4.2)% | | (10,764,542) |
| Net Assets 100.0% | | \$ 255,962,963 |

* The cost and unrealized appreciation (depreciation) of investments as of January 31, 2011, as computed for

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federal income tax purposes, were as follows:

| | |
|-------------------------------|-----------------|
| Aggregate cost | \$ 271,004,131 |
| Gross unrealized appreciation | \$ 7,903,217 |
| Gross unrealized depreciation | (22,895,460) |
| Net unrealized depreciation | \$ (14,992,243) |

(a) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.

(b) When-issued security. Unsettled when-issued transactions were as follows:

| Counterparty | Value | Unrealized Appreciation |
|---------------------|--------------|----------------------------|
| Goldman Sachs & Co. | \$ 2,647,891 | \$ 32,987 |

(c) Security exempt from registration under Rule 144A of the Securities Act of 1933. These securities may be resold in transactions exempt from registration to qualified institutional investors.

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

(e) Non-income producing security.

(f) Security represents a beneficial interest in a trust. The collateral deposited into the trust is federally tax-exempt revenue bonds issued by various state or local governments, or their respective agencies or authorities. The security is subject to remarketing prior to its stated maturity.

(g) Variable rate security. Rate shown is as of report date.

(h) Securities represent bonds transferred to a tender option bond trust in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.

(i) 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, 2010 | Net Activity | Shares Held at January 31, 2011 | Income |
|---|--|-----------------|--|----------|
| FFI Institutional Tax-Exempt Fund | 149,925 | 4,202,078 | 4,352,003 | \$ 3,806 |

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

Fair Value Measurements - Various inputs are used in determining the fair value of investments, which are as follows:

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Level 1 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)

The inputs or methodologies used for valuing securities are not necessarily an indication of the risk 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 inputs used as of January 31, 2011 in determining the fair valuation of the Fund's investments:

| Valuation Inputs | Level 1 | Level 2 | Level 3 | Total |
|------------------------------------|--------------|----------------|---------|----------------|
| Assets: | | | | |
| Investments in Securities: | | | | |
| Long-Term Investments ¹ | | \$ 262,415,531 | | \$ 262,415,531 |
| Short-Term Securities | \$ 4,352,003 | | | 4,352,003 |
| Total | \$ 4,352,003 | \$ 262,415,531 | | \$ 266,767,534 |

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

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Item 2 Controls and Procedures

2(a) The registrant's principal executive and principal financial officers or persons performing similar functions have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the 1940 Act)) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended.

2(b) There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3 Exhibits

Certifications Attached hereto

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BlackRock MuniAssets Fund, Inc.

By: /s/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock MuniAssets Fund, Inc.

Date: March 25, 2011

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 25, 2011

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

Date: March 25, 2011