

BLACKROCK APEX MUNICIPAL FUND INC  
Form N-Q  
March 31, 2010  
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 811-05227

Name of Fund: BlackRock Apex Municipal Fund, Inc. (APX)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: Anne F. Ackerley, Chief Executive Officer, BlackRock Apex Municipal Fund, Inc., 55 East 52<sup>nd</sup> Street, New York, NY 10055.

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 04/30/2010

Date of reporting period: 01/31/2010

Item 1 Schedule of Investments

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Schedule of Investments January 31, 2010 (Unaudited)

BlackRock Apex Municipal Fund, Inc. (APX)  
(Percentages shown are based on Net Assets)

| Municipal Bonds  | Par<br>(000) | Value            |
|--|--------------|------------------|
| <b>Alabama 0.4%</b>  |              |                  |
| County of Jefferson Alabama, RB,<br>Series A, 5.25%, 1/01/17   | \$ 365       | \$ 328,493       |
| Tuscaloosa Special Care Facilities<br>Financing Authority, RB, Capstone<br>Village, Series A, 5.88%,<br>8/01/36 (a)(b) | 1,255        | 387,092          |
|  |              | <u>715,585</u>   |
| <b>Alaska 1.0%</b>   |              |                  |
| Alaska Industrial Development & Export<br>Authority, RB, Williams Lynxs, Alaska<br>Cargoport, AMT, 8.00%, 5/01/23      | 2,000        | 1,883,240        |
| <b>Arizona 4.4%</b>  |              |                  |
| Maricopa County IDA Arizona, RB,<br>Arizona Charter Schools Project,<br>Series A, 6.63%, 7/01/20                       | 1,100        | 842,864          |
| Maricopa County IDA Arizona, RB, Sun<br>King Apartments Project, Series A,<br>6.00%, 11/01/10                          | 10           | 9,950            |
| Maricopa County IDA Arizona, RB, Sun<br>King Apartments Project, Series A,<br>6.75%, 5/01/31                           | 1,020        | 790,265          |
| Phoenix IDA Arizona, Refunding RB,<br>America West Airlines Inc. Project,<br>AMT, 6.30%, 4/01/23                       | 2,950        | 1,969,450        |
| Pima County IDA, RB, Arizona Charter<br>Schools Project, Series E, 7.25%,<br>7/01/31                                   | 960          | 929,078          |
| Pima County IDA, Refunding IDR, B,<br>Tucson Electric Power, 5.75%,<br>9/01/29   | 460          | 464,715          |
| Salt Verde Financial Corp., RB, Senior,<br>5.00%, 12/01/32   | 1,950        | 1,713,485        |
| University Medical Center Corp., Arizona,<br>RB, 6.25%, 7/01/29  | 540          | 572,702          |
| Yavapai County IDA, Arizona, RB,<br>Yavapai Regional Medical Center,<br>Series A, 6.00%, 8/01/33                       | 500          | 501,090          |
|  |              | <u>7,793,599</u> |
| <b>California 2.8%</b>   |              |                  |
| California Health Facilities Financing<br>Authority, RB, Cedars-Sinai Medical<br>Center, 5.00%, 8/15/39                | 765          | 706,294          |

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| Municipal Bonds  | Par<br>(000) | Value      |
|--|--------------|------------|
| <b>California (concluded)</b>  |              |            |
| California Statewide Communities Development Authority, Refunding RB, Senior Living, Southern California, 7.00%, 11/15/29            | \$ 400       | \$ 421,680 |
| California Statewide Communities Development Authority, Refunding RB, Senior Living, Southern California, 7.25%, 11/15/41            | 1,440        | 1,526,789  |
| City of Fontana California, Special Tax Bonds, Refunding, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34      | 1,000        | 926,290    |
| State of California, GO, 4.50%, 10/01/36   | 1,755        | 1,406,773  |
|  |              | 4,987,826  |
| <b>Colorado 3.1%</b>   |              |            |
| Colorado Health Facilities Authority, Refunding RB, Christian Living Communities Project, Series A, 5.75%, 1/01/26                   | 450          | 401,233    |
| Elk Valley Public Improvement Corp., RB, Public Improvement Fee, Series A, 7.30%, 9/01/22  | 2,800        | 2,710,876  |
| Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Public Improvement Fee, Tax Increment, 8.00%, 12/01/25             | 2,000        | 1,971,480  |
| Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Subordinate Public Improvement Fee, Tax Increment, 8.13%, 12/01/25 | 500          | 468,935    |
|  |              | 5,552,524  |
| <b>Connecticut 2.3%</b>  |              |            |
| Harbor Point Infrastructure Improvement District, Tax Allocation Bonds, Harbor Point Project, Series A, 7.88%, 4/01/39 (c)           | 1,610        | 1,610,612  |
| Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 6.25%, 1/01/31                               | 1,785        | 1,429,767  |

**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.

ACA American Capital Access Corp.  
AGC Assured Guaranty Corp.

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|       |  |
|-------|--|
| 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         |
| IDRB  | Industrial Development Revenue Bonds     |
| NPFGC | National Public Financed Guarantee Corp. |
| MRB   | Mortgage Revenue Bonds                   |
| RB    | Revenue Bonds                            |

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BLACKROCK APEX MUNICIPAL FUND, INC.

JANUARY 31, 2010

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## Schedule of Investments (continued)

**BlackRock Apex Municipal Fund, Inc. (APX)**  
 (Percentages shown are based on Net Assets)

| Municipal Bonds   | Par<br>(000) | Value            |
|---|--------------|------------------|
| <b>Connecticut (concluded)</b>  |              |                  |
| Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution, 5.25%, 1/01/33 (d)                      | \$ 1,500     | \$ 1,081,560     |
|   |              | <u>4,121,939</u> |
| <b>District of Columbia 2.2%</b>  |              |                  |
| District of Columbia, RB, Methodist Home District of Columbia, Series A, 7.38%, 1/01/30   | 680          | 680,272          |
| District of Columbia, RB, Methodist Home District of Columbia, Series A, 7.50%, 1/01/39   | 1,110        | 1,102,119        |
| District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33                             | 730          | 721,284          |
| Metropolitan Washington Airports Authority, RB, CAB, Second Senior Lien, Series B (AGC), 6.74%, 10/01/39 (e)                    | 9,770        | 1,435,017        |
|   |              | <u>3,938,692</u> |
| <b>Florida 9.6%</b>   |              |                  |
| Capital Region Community Development District, Florida, Special Assessment Bonds, Capital Improvement, Series A, 7.00%, 5/01/39 | 645          | 618,645          |
| County of Miami-Dade, Florida, Refunding RB, Miami International Airport, Series A-1, 5.38%, 10/01/41                           | 485          | 480,223          |
| Hillsborough County IDA, RB, National Gypsum Co., Series A, AMT, 7.13%, 4/01/30   | 2,500        | 1,925,075        |
| Hillsborough County IDA, RB, National Gypsum Co., Series B, AMT, 7.13%, 4/01/30   | 1,560        | 1,201,247        |
| Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37                                | 900          | 648,828          |
| Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17          | 840          | 857,892          |
| Lee County IDA Florida, RB, Series A, Lee Charter Foundation, 5.38%, 6/15/37  | 1,810        | 1,332,377        |

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|  |       |           |
|--|-------|-----------|
| Main Street Community Development District, Special Assessment Bonds, Series B, 6.90%, 5/01/17   | 345   | 304,173   |
| Midtown Miami Community Development District, Special Assessment Bonds, Series A, 6.00%, 5/01/24 | 1,430 | 1,263,319 |
| Midtown Miami Community Development District, Special Assessment Bonds, Series A, 6.25%, 5/01/37 | 1,350 | 1,146,150 |
| Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28  | 2,140 | 1,198,464 |

| Municipal Bonds   | Par<br>(000) | Value      |
|---|--------------|------------|
| <b>Florida (concluded)</b>  |              |            |
| Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/27                                  | \$ 590       | \$ 523,855 |
| Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project, 5.50%, 1/01/32                                  | 550          | 470,762    |
| Sarasota County Public Hospital District, RB, Sarasota Memorial Hospital Project, Series A, 5.63%, 7/01/39                              | 470          | 477,708    |
| Sumter Landing Community Development District Florida, RB, Sub-Series B, 5.70%, 10/01/38  | 1,615        | 1,216,725  |
| Tampa Palms Open Space & Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18 | 2,075        | 2,074,626  |
| Tolomato Community Development District, Special Assessment Bonds, Special Assessment, 6.65%, 5/01/40                                   | 1,850        | 1,479,482  |
|   |              | 17,219,551 |

|  |       |           |
|--|-------|-----------|
| <b>Georgia 3.0%</b>  |       |           |
| City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31                                     | 395   | 342,050   |
| Clayton County Development Authority, RB, Delta Air Lines Inc. Project, Series A, 8.75%, 6/01/29                           | 1,375 | 1,413,569 |
| County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33   | 1,640 | 1,538,894 |
| Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2, 6.63%, 11/15/39 | 645   | 666,736   |
| Rockdale County Development Authority, RB, Visy Paper Project, Series A, AMT, 6.13%, 1/01/34                               | 1,680 | 1,353,946 |

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5,315,195

**Guam 3.3%**

|   |       |           |
|---|-------|-----------|
| Guam Government Waterworks Authority, Refunding RB, Water, 6.00%, 7/01/25 | 515   | 515,675   |
| Guam Government Waterworks Authority, Refunding RB, Water, 5.88%, 7/01/35 | 1,600 | 1,552,096 |
| Territory of Guam, GO, Series A, 6.00%, 11/15/19                          | 250   | 253,895   |
| Territory of Guam, GO, Series A, 6.75%, 11/15/29                          | 440   | 455,686   |
| Territory of Guam, GO, Series A, 7.00%, 11/15/39                          | 455   | 466,925   |
| Territory of Guam, RB, Section 30, Series A, 5.63%, 12/01/29              | 1,000 | 1,007,810 |

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BLACKROCK APEX MUNICIPAL FUND, INC.

JANUARY 31, 2010

## Schedule of Investments (continued)

**BlackRock Apex Municipal Fund, Inc. (APX)**  
 (Percentages shown are based on Net Assets)

| Municipal Bonds  | Par<br>(000) | Value            |
|--|--------------|------------------|
| <b>Guam (concluded)</b>  |              |                  |
| Territory of Guam, RB, Section 30,<br>Series A, 5.75%, 12/01/34  | \$ 1,540     | \$ 1,557,156     |
|  |              | <u>5,809,243</u> |
| <b>Illinois 4.8%</b>   |              |                  |
| City of Chicago Illinois, Refunding RB,<br>American Airlines Inc. Project, 5.50%,<br>12/01/30  | 2,860        | 1,945,029        |
| Illinois Finance Authority, RB, Clare at<br>Water Tower Project, Series A, 6.13%,<br>5/15/38 (a)(b)  | 2,050        | 821,087          |
| Illinois Finance Authority, RB, Monarch<br>Landing Inc. Facility, Series A, 7.00%,<br>12/01/37 (a)(b)                                      | 575          | 184,000          |
| Illinois Finance Authority, RB, Roosevelt<br>University Project, 6.50%, 4/01/44  | 1,700        | 1,746,444        |
| Illinois Finance Authority, RB, Rush<br>University Medical Center Obligation<br>Group, Series A, 7.25%, 11/01/30                           | 2,000        | 2,219,840        |
| Illinois Finance Authority, Refunding RB,<br>Primary Health Care Centers Program,<br>6.60%, 7/01/24  | 490          | 434,316          |
| Village of Lincolnshire Illinois, Special<br>Tax Bonds, Sedgebrook Project,<br>6.25%, 3/01/34  | 755          | 595,393          |
| Village of Wheeling Illinois, Tax<br>Allocation Bonds, North<br>Milwaukee/Lake-Cook TIF Project,<br>6.00%, 1/01/25                         | 750          | 666,570          |
|  |              | <u>8,612,679</u> |
| <b>Indiana 2.6%</b>  |              |                  |
| Indiana Finance Authority, Refunding<br>RB, Duke Energy Indiana, Inc.,<br>Series C, 4.95%, 10/01/40  | 1,390        | 1,348,106        |
| Indiana Health & Educational Facilities<br>Financing Authority, Refunding RB,<br>Community Foundation Northwest<br>Indiana, 5.50%, 3/01/37 | 1,770        | 1,686,208        |
| Vanderburgh County Redevelopment<br>Commission Indiana, Tax Allocation<br>Bonds, 5.25%, 2/01/31  | 820          | 783,838          |
| Vigo County Hospital Authority Indiana,<br>RB, Union Hospital Inc., 5.70%,   | 440          | 363,585          |



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|  |     |           |
|--|-----|-----------|
| 9/01/37 (d)<br>Vigo County Hospital Authority Indiana,<br>RB, Union Hospital Inc., 5.75%,<br>9/01/42 (d) | 545 | 446,731   |
|  |     | 4,628,468 |

**Louisiana 1.2%**

|  |       |           |
|--|-------|-----------|
| Louisiana Local Government<br>Environmental Facilities & Community<br>Development Authority, RB, Westlake<br>Chemical Corp. Projects, 6.75%,<br>11/01/32 | 2,000 | 2,062,440 |
|--|-------|-----------|

| Municipal Bonds   | Par<br>(000) | Value      |
|---|--------------|------------|
| <b>Maryland 1.2%</b>  |              |            |
| Maryland EDC, RB, Transportation<br>Facilities Project, Series A, 5.75%,<br>6/01/35                               | \$ 420       | \$ 424,200 |
| Maryland Health & Higher Educational<br>Facilities Authority, RB, Washington<br>Christian Academy, 5.50%, 7/01/38 | 410          | 196,796    |
| Maryland State Energy Financing<br>Administration, RB, Cogeneration, AES<br>Warrior Run, AMT, 7.40%, 9/01/19      | 1,500        | 1,500,345  |
|   |              | 2,121,341  |

**Massachusetts 2.3%**

|   |       |           |
|---|-------|-----------|
| Massachusetts Development Finance<br>Agency, RB, First Mortgage, Overlook<br>Communities, Series A, 6.25%,<br>7/01/34     | 1,845 | 1,558,508 |
| Massachusetts Development Finance<br>Agency, Refunding RB, Eastern<br>Nazarene College, 5.63%, 4/01/19                    | 1,245 | 1,120,276 |
| Massachusetts Health & Educational<br>Facilities Authority, RB, Jordan<br>Hospital, Series E, 6.75%, 10/01/33             | 850   | 769,786   |
| Massachusetts Health & Educational<br>Facilities Authority, Refunding RB,<br>Milton Hospital, Series C, 5.50%,<br>7/01/16 | 500   | 439,960   |
| Massachusetts Port Authority, RB, Delta<br>Air Lines Inc. Project, Series A, AMT<br>(AMBAC), 5.50%, 1/01/13               | 280   | 269,055   |
|   |       | 4,157,585 |

**Michigan 2.7%**

|   |     |         |
|---|-----|---------|
| Advanced Technology Academy, RB,<br>6.00%, 11/01/37                                 | 625 | 523,681 |
| County of Wayne Michigan, GO, Building<br>Improvement, Series A, 6.75%,<br>11/01/39 | 375 | 390,540 |

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|  |       |           |
|--|-------|-----------|
| Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35 | 1,260 | 980,570   |
| Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39           | 2,575 | 2,985,507 |

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4,880,298

**Mississippi 0.6%**

|  |       |           |
|--|-------|-----------|
| Mississippi Business Finance Corp., RB, Waste Management Inc. Project, AMT, 6.88%, 3/01/29 | 1,000 | 1,003,410 |
|--|-------|-----------|

**Missouri 0.5%**

|  |       |         |
|--|-------|---------|
| Kansas City IDA Missouri, RB, First Mortgage, Bishop Spencer, Series A, 6.50%, 1/01/35 | 1,000 | 853,180 |
|--|-------|---------|

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BLACKROCK APEX MUNICIPAL FUND, INC.

JANUARY 31, 2010

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## Schedule of Investments (continued)

BlackRock Apex Municipal Fund, Inc. (APX)  
(Percentages shown are based on Net Assets)

| Municipal Bonds   | Par<br>(000) | Value      |
|---|--------------|------------|
| <b>Montana 0.5%</b>   |              |            |
| Kirkwood Industrial Development Authority, Montana, RB, Aberdeen Heights, Series A, 8.25%, 5/15/39 (c)                    | \$ 945       | \$ 929,445 |
| <b>Multi-State 0.4%</b>   |              |            |
| MuniMae TE Bond Subsidiary LLC, 7.50% (d)(f)(g)   | 691          | 640,739    |
| <b>Nevada 0.2%</b>  |              |            |
| County of Clark Nevada, Special Assessment Bonds, Special Improvement District No. 142, Local Improvement, 6.38%, 8/01/23 | 380          | 355,380    |
| <b>New Hampshire 0.4%</b>   |              |            |
| New Hampshire Health & Education Facilities Authority, RB, Catholic Medical Center, 5.00%, 7/01/36                        | 835          | 697,050    |
| <b>New Jersey 8.8%</b>  |              |            |
| Camden County Pollution Control Financing Authority, Refunding RB, Series A, AMT, 7.50%, 12/01/10                         | 4,885        | 4,885,928  |
| New Jersey EDA, RB, Cigarette Tax, 5.50%, 6/15/24   | 1,225        | 1,202,264  |
| New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.63%, 9/15/12  | 3,050        | 3,001,932  |
| New Jersey EDA, RB, Continental Airlines Inc. Project, AMT, 6.25%, 9/15/29  | 1,000        | 873,430    |
| New Jersey EDA, Refunding RB, Newark Airport Marriott Hotel, 7.00%, 10/01/14  | 1,500        | 1,482,825  |
| New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B, 7.13%, 12/01/23  | 670          | 759,619    |
| New Jersey Educational Facilities Authority, Refunding RB, University of Medicine & Dentistry, Series B, 7.50%, 12/01/32  | 1,065        | 1,200,575  |
| New Jersey Health Care Facilities Financing Authority, RB, Pascack Valley Hospital Association, 6.63%, 7/01/36 (a)(b)     | 1,870        | 19         |
| New Jersey Health Care Facilities Financing Authority, Refunding RB, St.  | 1,680        | 1,685,779  |

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|  |       |            |
|--|-------|------------|
| Joseph s Healthcare System, 6.63%,<br>7/01/38  |       |            |
| New Jersey Transportation Trust Fund<br>Authority, RB, CAB, Transportation<br>System, Series C (AMBAC), 5.05%,<br>12/15/35 (e) | 2,760 | 557,161    |
|  |       | 15,649,532 |

|   |       |           |
|---|-------|-----------|
| <b>New York 6.2%</b>  |       |           |
| Brooklyn Arena Local Development<br>Corp., RB, Barclays Center Project,<br>6.38%, 7/15/43               | 685   | 699,344   |
| Chautauqua County Industrial<br>Development Agency, RB, NRG<br>Dunkirk Power Project, 5.88%,<br>4/01/42 | 1,710 | 1,735,171 |

|                        |                      |              |
|------------------------|----------------------|--------------|
| <b>Municipal Bonds</b> | <b>Par<br/>(000)</b> | <b>Value</b> |
|------------------------|----------------------|--------------|

|  |          |            |
|--|----------|------------|
| <b>New York (concluded)</b>  |          |            |
| Dutchess County Industrial<br>Development Agency New York, RB,<br>St. Francis Hospital, Series B, 7.50%,<br>3/01/29              | \$ 1,000 | \$ 983,000 |
| Metropolitan Transportation Authority,<br>RB, Series 2008-C, 6.50%, 11/15/28   | 2,000    | 2,283,020  |
| New York City Industrial Development<br>Agency, RB, American Airlines Inc.,<br>JFK International Airport, AMT, 8.00%,<br>8/01/28 | 720      | 722,102    |
| New York City Industrial Development<br>Agency, RB, British Airways Plc<br>Project, AMT, 7.63%, 12/01/32                         | 1,730    | 1,579,836  |
| New York City Industrial Development<br>Agency, RB, Series C, 6.80%,<br>6/01/28  | 350      | 368,732    |
| New York City Industrial Development<br>Agency, RB, Special Needs Facilities<br>Pooled Program, Series C-1, 6.50%,<br>7/01/24    | 830      | 763,700    |
| New York Liberty Development Corp.,<br>RB, National Sports Museum Project,<br>Series A, 6.13%, 2/15/19 (a)(b)                    | 630      | 6          |
| New York State Dormitory Authority, RB,<br>North Shore-Long Island Jewish<br>Health System, Series A, 5.50%,<br>5/01/37          | 1,000    | 1,008,570  |
| Yonkers Industrial Development Agency<br>New York, RB, Sarah Lawrence<br>College Project, Series A, 6.00%,<br>6/01/41            | 850      | 877,600    |
|  |          | 11,021,081 |

|  |       |           |
|--|-------|-----------|
| <b>North Carolina 1.8%</b>                                     |       |           |
| North Carolina Medical Care<br>Commission, Refunding RB, First | 3,230 | 3,150,800 |

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Mortgage, Deerfield, Series A, 6.13%,  
11/01/38

**Ohio 2.5%**

Buckeye Tobacco Settlement Financing  
Authority, RB, Asset-Backed, Senior  
Series A-2, 5.13%, 6/01/24 2,490 2,304,818

Buckeye Tobacco Settlement Financing  
Authority, RB, Asset-Backed, Senior  
Series A-2, 6.50%, 6/01/47 2,685 2,251,695

4,556,513

**Pennsylvania 7.9%**

Allegheny County Hospital Development  
Authority, Refunding RB, Health  
System, West Penn, Series A, 5.38%,  
11/15/40 2,385 1,752,951

Bucks County IDA, RB, Ann s Choice Inc.  
Facility, Series A, 6.13%, 1/01/25 1,160 1,086,201

Cumberland County Municipal Authority,  
RB, Diakon Lutheran, 6.38%,  
1/01/39 2,510 2,449,986

Lancaster County Hospital Authority, RB,  
Brethren Village Project, Series A,  
6.25%, 7/01/26 475 457,529

## Schedule of Investments (continued)

**BlackRock Apex Municipal Fund, Inc. (APX)**  
 (Percentages shown are based on Net Assets)

| Municipal Bonds  | Par<br>(000) | Value             |
|--|--------------|-------------------|
| <b>Pennsylvania (concluded)</b>  |              |                   |
| Lancaster County Hospital Authority, RB,<br>Brethren Village Project, Series A,<br>6.50%, 7/01/40  | \$ 410       | \$ 384,297        |
| Montgomery County IDA Pennsylvania,<br>MRB, Whitemarsh Continuing Care,<br>6.25%, 2/01/35  | 1,700        | 1,244,570         |
| Pennsylvania Higher Educational<br>Facilities Authority, Refunding RB,<br>Allegheny Delaware Valley Obligation,<br>Series A (NPFGC), 5.88%, 11/15/21 | 2,320        | 2,216,273         |
| Philadelphia Authority for Industrial<br>Development, RB, Commercial<br>Development, AMT, 7.75%, 12/01/17  | 3,000        | 2,999,520         |
| Philadelphia Authority for Industrial<br>Development, RB, Subordinate, Air<br>Cargo, Series A, AMT, 7.50%,<br>1/01/25                                | 1,600        | 1,496,880         |
|  |              | <u>14,088,207</u> |
| <b>Puerto Rico 1.1%</b>  |              |                   |
| Puerto Rico Public Buildings Authority,<br>Refunding RB, Series Q, 5.63%,<br>7/01/39   | 985          | 940,734           |
| Puerto Rico Sales Tax Financing Corp.,<br>RB, First Sub-Series A, 6.50%,<br>8/01/44  | 1,000        | 1,067,160         |
|  |              | <u>2,007,894</u>  |
| <b>Rhode Island 0.8%</b>   |              |                   |
| Central Falls Detention Facility Corp.,<br>Refunding RB, 7.25%, 7/15/35  | 1,750        | 1,494,728         |
| <b>South Carolina 0.6%</b>   |              |                   |
| Connector 2000 Association Inc., RB,<br>CAB, Senior Series B, 9.22%,<br>1/01/14 (a)(b)(e)  | 1,075        | 206,400           |
| South Carolina Jobs EDA, Refunding RB,<br>Palmetto Health, 5.50%, 8/01/26  | 670          | 664,124           |
| South Carolina Jobs EDA, Refunding RB,<br>Palmetto Health, 5.75%, 8/01/39  | 270          | 261,438           |
|  |              | <u>1,131,962</u>  |

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| <b>Tennessee 0.1%</b>  |                      |              |
|--|----------------------|--------------|
| Shelby County Health Educational & Housing Facilities Board, RB, Village at Germantown, 6.25%, 12/01/34                      | 245                  | 205,543      |
| <b>Texas 9.9%</b>  |                      |              |
| Bexar County Health Facilities Development Corp., RB, Army Retirement Residence Project, 6.20%, 7/01/45 (c)                  | 2,055                | 2,054,877    |
| Brazos River Authority, Refunding RB, TXU Electric Co. Project, Series C, AMT, 5.75%, 5/01/36                                | 1,475                | 1,386,765    |
| Brazos River Authority, Refunding RB, Texas Utility Co., Series, AMT, 7.70%, 4/01/33   | 2,530                | 1,644,955    |
|  | <b>Par<br/>(000)</b> | <b>Value</b> |
| <b>Municipal Bonds</b>   |                      |              |
| <b>Texas (concluded)</b>   |                      |              |
| City of Houston Texas, RB, Special Facilities, Continental Airlines, Series E, AMT, 6.75%, 7/01/21                           | \$ 1,865             | \$ 1,780,739 |
| Danbury Higher Education Authority Inc., RB, A.W. Brown Fellowship Charter, Series A (ACA), 5.13%, 8/15/36                   | 1,000                | 820,650      |
| Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, B, 7.25%, 12/01/35      | 1,110                | 1,243,600    |
| Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29 | 850                  | 918,306      |
| North Texas Tollway Authority, RB, Toll, Second Tier, Series F, 6.13%, 1/01/31   | 1,650                | 1,725,157    |
| Tarrant County Cultural Education Facilities Finance Corp., RB, CC Young Memorial Home, Series A, 8.00%, 2/15/38             | 710                  | 693,848      |
| Tarrant County Cultural Education Facilities Finance Corp., RB, Senior Living Center Project, Series A, 8.25%, 11/15/44      | 1,710                | 1,656,580    |
| Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien, Note Mobility, 6.88%, 12/31/39                    | 1,605                | 1,670,757    |
| Texas State Public Finance Authority, Refunding, ERB, Kipp Inc., Series A (ACA), 5.00%, 2/15/28                              | 2,250                | 2,033,865    |
|  |                      | 17,630,099   |
| <b>Utah 1.3%</b>   |                      |              |
| County of Carbon Utah, Refunding RB, Laidlaw Environmental, Series A, AMT,   | 2,240                | 2,243,427    |

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7.45%, 7/01/17

**Virgin Islands 1.4%**

|   |       |           |
|---|-------|-----------|
| United States Virgin Islands, Refunding<br>RB, Senior Secured, Hovensa Coker<br>Project, AMT, 6.50%, 7/01/21  | 2,100 | 2,123,709 |
| Virgin Islands Public Finance Authority,<br>RB, Senior Lien, Capital Projects,<br>Series A-1, 5.00%, 10/01/39 | 340   | 302,110   |
|   |       | 2,425,819 |

**Virginia 1.7%**

|   |       |           |
|---|-------|-----------|
| Dulles Town Center Community<br>Development Authority, Special<br>Assessment Bonds, Dulles Town<br>Center Project, 6.25%, 3/01/26 | 2,385 | 2,228,997 |
| Tobacco Settlement Financing Corp.<br>Virginia, Refunding RB,<br>Senior Series B1, 5.00%, 6/01/47                                 | 1,250 | 871,363   |
|   |       | 3,100,360 |

BLACKROCK APEX MUNICIPAL FUND, INC.

JANUARY 31, 2010

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## Schedule of Investments (continued)

**BlackRock Apex Municipal Fund, Inc. (APX)**  
 (Percentages shown are based on Net Assets)

| Municipal Bonds  | Par<br>(000) | Value              |
|--|--------------|--------------------|
| <b>Wisconsin 1.7%</b>  |              |                    |
| Wisconsin Health & Educational Facilities Authority, RB, New Castle Place Project, Series A, 7.00%, 12/01/31             | \$ 1,320     | \$ 1,252,152       |
| Wisconsin Health & Educational Facilities Authority, RB, Wheaton Franciscan Healthcare, 5.25%, 8/15/34                   | 1,425        | 1,237,669          |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A, 7.25%, 9/15/29 | 175          | 177,825            |
| Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A, 7.63%, 9/15/39 | 350          | 358,256            |
|  |              | <u>3,025,902</u>   |
| <b>Wyoming 1.3%</b>  |              |                    |
| County of Sweetwater Wyoming, Refunding RB, FMC Corp. Project, AMT, 5.60%, 12/01/35                                      | 2,500        | 2,296,950          |
| <b>Total Municipal Bonds 96.6%</b>   |              | <u>172,308,226</u> |

**Municipal Bonds Transferred to Tender  
 Option Bond Trusts (h)**

|   |       |           |
|---|-------|-----------|
| <b>District of Columbia 1.7%</b>  |       |           |
| District of Columbia Water & Sewer Authority, RB, Series A, 6.00%, 10/01/35                         | 2,730 | 3,048,601 |
| <b>Florida 3.4%</b>   |       |           |
| County of Miami-Dade Florida, RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33 | 6,130 | 6,063,980 |

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|  |       |             |
|--|-------|-------------|
| <b>Virginia 3.2%</b>   |       |             |
| Virginia HDA, RB, Sub-Series H-1<br>(NPFGC), 5.38%, 7/01/36                    | 5,710 | 5,753,624   |
| <b>Total Municipal Bonds Transferred to<br/>Tender Option Bond Trusts 8.3%</b> |       | 14,866,205  |
| <b>Total Long-Term Investments<br/>(Cost \$194,671,060) 104.9%</b>             |       | 187,174,431 |

| Short-Term Securities  | Shares    |           |
|--|-----------|-----------|
| FFI Institutional Tax-Exempt Fund,<br>0.16% (i)(j)             | 2,416,026 | 2,416,026 |
| <b>Total Short-Term Securities<br/>(Cost \$2,416,026) 1.4%</b> |           | 2,416,026 |

|   | Value          |
|---|----------------|
| <b>Total Investments<br/>(Cost \$197,087,086*) 106.3%</b>                                       | \$ 189,590,457 |
| <b>Liabilities in Excess of Other Assets (2.2)%</b>   | (3,923,065)    |
| <b>Liability for Trust Certificates, Including Interest<br/>Expense and Fees Payable (4.1)%</b> | (7,291,232)    |
| <b>Net Assets 100.0%</b>  | \$ 178,376,160 |

\* The cost and unrealized appreciation (depreciation) of investments as of January 31, 2009, as computed for federal income tax purposes, were as follows:

|                               |                |
|-------------------------------|----------------|
| Aggregate cost                | \$ 189,822,719 |
| Gross unrealized appreciation | \$ 8,136,408   |
| Gross unrealized depreciation | (15,654,116)   |
| Net unrealized depreciation   | \$ (7,517,708) |

- (a) Issuer filed for bankruptcy and/or is in default of interest payments.
- (b) Non-income producing security.
- (c) When-issued security. Unsettled when-issued security transactions were as follows:

| Counterparty      | Market Value | Unrealized Appreciation (Depreciation) |
|-------------------|--------------|--|
| B.C. Ziegler      | \$ 929,445   | \$ 9                                   |
| Raymond C Forbes  | \$ 2,054,877 | \$ (123)                               |
| Stone & Youngberg | \$ 1,610,612 | \$ 612                                 |

- (d) 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.
- (e) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date
- (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 and is subject to mandatory redemption.
- (g) Security is perpetual in nature and has no stated maturity 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, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, were as follows:

| Affiliate                         | Net Activity | Income   |
|-----------------------------------|--------------|----------|
| FFI Institutional Tax-Exempt Fund | \$ 2,316,020 | \$ 2,542 |

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

## Schedule of Investments (concluded)

BlackRock Apex Municipal Fund, Inc. (APX)

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

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 Fund's most recent financial statements as contained in its semi-annual report.

The following table summarizes the inputs used as of January 31, 2010 in determining the fair valuation of the Fund's investments:

| Valuation Inputs                             | Investments in Securities |
|--|---------------------------|
|  | Assets                    |
| Level 1 - Short-Term Securities              | \$ 2,416,026              |
| Level 2 - Long-Term Investments <sup>1</sup> | 187,174,431               |
| Level 3                                      |                           |
| <b>Total</b>                                 | <b>\$ 189,590,457</b>     |

<sup>1</sup>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 13(a)-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 Apex Municipal Fund, Inc.

By: /s/ Anne F. Ackerley  
Anne F. Ackerley  
Chief Executive Officer of  
BlackRock Apex Municipal Fund,  
Inc.

Date: March 19, 2010

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/ Anne F. Ackerley  
Anne F. Ackerley  
Chief Executive Officer (principal executive officer) of  
BlackRock Apex Municipal Fund,  
Inc.

Date: March 19, 2010

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

Date: March 19, 2010