

BLACKROCK APEX MUNICIPAL FUND INC  
Form N-CSRS  
March 05, 2009  
UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

**FORM N-CSRS**

**CERTIFIED SHAREHOLDER REPORT OF REGISTERED MANAGEMENT INVESTMENT COMPANIES**

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: Donald C. Burke, Chief Executive Officer, BlackRock Apex Municipal Fund, Inc., 800 Scudders Mill Road, Plainsboro, NJ, 08536. Mailing address: P.O. Box 9011, Princeton, NJ, 08543-9011

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

Date of fiscal year end: 06/30/2009

Date of reporting period: 12/31/2008

Item 1 – Report to Stockholders

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EQUITIES FIXED INCOME REAL ESTATE LIQUIDITY ALTERNATIVES BLACKROCK SOLUTIONS

**BlackRock Apex Municipal  
Fund, Inc. (APX)**

SEMI-ANNUAL REPORT

DECEMBER 31, 2008 | (UNAUDITED)

NOT FDIC INSURED

MAY LOSE VALUE

NO BANK GUARANTEE

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## A Letter to Shareholders

### Dear Shareholder

The present time may well be remembered as one of the most tumultuous periods in financial market history. Over the past year, the bursting of the housing bubble and the resultant credit crisis swelled into an all-out global financial market meltdown that featured the collapse of storied financial firms, volatile swings in the world's financial markets and monumental government responses designed to prop up the economy and stabilize the financial system.

The US economy appeared relatively resilient through the first half of 2008, when rising food and energy prices stoked fears of inflation. The tenor changed dramatically in the second half, as inflationary pressure subsided amid plummeting oil prices, while economic pressures escalated in the midst of a rapid deterioration in consumer spending, employment and other key indicators. By period-end, the National Bureau of Economic Research had confirmed what most already knew — the United States was in a recession, which officially began in December 2007. The Federal Reserve Board (the "Fed"), after slashing interest rates aggressively in the early months of the year, resumed that rate-cutting campaign in the fall, with the final reduction in December bringing the target federal funds rate to a record low range of between zero and 0.25%. Importantly, the central bank pledged that future policy moves to revive the global economy and financial markets would comprise primarily of nontraditional and quantitative easing measures, such as capital injections, lending programs and government guarantees.

Against this backdrop, US equity markets experienced intense volatility, with periods of downward pressure punctuated by sharp rebounds. Declines were significant and broad-based, though smaller cap stocks posted somewhat better relative performance. Non-US stocks started off the year stronger, but quickly lost ground as the credit crisis revealed itself to be global in nature and as the global economy turned south. Overall, domestic equities notched better results than non-US equities, reversing the prior years' trend of international equity outperformance.

In fixed income markets, investors shunned risky assets and sought the safety and liquidity of US Treasury issues. Prices soared, while yields fell to record lows, with the Treasury sector topping all other asset classes over the reporting period. Amid spillover from historic events in the financial sector, municipals contended with fewer market participants, lack of liquidity, a challenging funding environment and a backlog of new-issue supply, all of which contributed to the sector's underperformance relative to taxable issues. At the same time, economic turmoil combined with dislocated credit markets and substantial technical pressures resulted in the worst year on record for the high yield market.

In all, an investor flight to safety prevailed, as evidenced in the six- and 12-month returns of the major benchmark indexes:

<b>Total Returns as of December 31, 2008</b>	<b>6-month</b>	<b>12-month</b>
US equities (S&P 500 Index)	(28.48)%	(37.00)%
Small cap US equities (Russell 2000 Index)	(26.94)	(33.79)
International equities (MSCI Europe, Australasia, Far East Index)	(36.41)	(43.38)
US Treasury securities (Merrill Lynch 10-Year US Treasury Index)	17.70	20.06
Taxable fixed income (Barclays Capital US Aggregate Index*)	4.07	5.24
Tax-exempt fixed income (Barclays Capital Municipal Bond Index*)	(2.49)	(2.47)
High yield bonds (Barclays Capital US Corporate High Yield 2% Issuer Capped Index*)	(25.07)	(25.88)

\* Formerly a Lehman Brothers index.

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Past performance is no guarantee of future results. Index performance shown for illustrative purposes only. You cannot invest directly in an index.

Through periods of market turbulence, as ever, BlackRock's full resources are dedicated to the management of our clients' assets. For our most current views on the economy and financial markets, we invite you to visit [www.blackrock.com/funds](http://www.blackrock.com/funds). As always, we thank you for entrusting BlackRock with your investments, and we look forward to continuing to serve you in the months and years ahead.

Sincerely,

Rob Kapito  
President, BlackRock Advisors, LLC

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THIS PAGE NOT PART OF YOUR FUND REPORT

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Fund Summary as of December 31, 2008

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### Investment Objective

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**BlackRock Apex Municipal Fund, Inc. (APX) (the “Fund”)** seeks to provide shareholders with high current income exempt from federal income taxes by investing primarily in a portfolio of medium- to lower-grade or unrated municipal obligations, the interest on which is exempt from federal income taxes in the opinion of bond counsel to the issuer.

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### Performance

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For the six months ended December 31, 2008, the Fund returned (29.72)% based on market price and (20.02)% based on net asset value (“NAV”). For the same period, the closed-end Lipper High Yield Municipal Debt Funds category posted an average return of (26.76)% on a NAV basis. All returns reflect reinvestment of dividends. The Fund moved from a premium to NAV to a discount to NAV, which accounts for the difference between performance based on price and performance based on NAV. Factors contributing to the Fund’s outperformance included bias toward higher quality issues and a below-market duration stance, offset somewhat by a moderately below-average distribution yield. Given improving value in the high yield municipal arena, activity during the latter part of the reporting period has been geared toward adopting a more neutral posture with respect to both credit and duration.

The views expressed reflect the opinions of BlackRock as of the date of this report and are subject to change based on changes in market, economic or other conditions. These views are not intended to be a forecast of future events and are no guarantee of future results.

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### Fund Information

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Symbol on New York Stock Exchange	APX
Initial Offering Date	July 25, 1989
Yield on Closing Market Price as of December 31, 2008 (\$6.29) <sup>1</sup>	8.87%
Tax Equivalent Yield <sup>2</sup>	13.65%
Current Monthly Distribution per Common Share <sup>3</sup>	\$0.0465
Current Annualized Distribution per Common Share <sup>3</sup>	\$0.5580
Leverage as of December 31, 2008 <sup>4</sup>	2%

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<sup>1</sup> Yield on closing market price is calculated by dividing the current annualized distribution per share by the closing market price. Past performance does not guarantee future results.

<sup>2</sup> Tax equivalent yield assumes the maximum federal tax rate of 35%.

<sup>3</sup> The distribution is not constant and is subject to change.

<sup>4</sup> As a percentage of total managed assets, which is the total assets of the Fund (including any assets attributable to tender option bond trusts (“TOBs”)) minus the sum of accrued liabilities.

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The table below summarizes the changes in the Fund's market price and net asset value per share:

	12/31/08	6/30/08	Change	High	Low
Market Price	\$ 6.29	\$ 9.28	(32.22)%	\$ 9.70	\$ 5.55
Net Asset Value	\$ 7.05	\$ 9.14	(22.87)%	\$ 9.21	\$ 6.91

The following charts show the Fund's portfolio composition and credit quality allocations of the Fund's long-term investments:

### Portfolio Composition

Sector	12/31/08	6/30/08
Industrial & Pollution Control	25%	24%
Hospitals	23	28
City, County & State	13	12
Transportation	11	7
Housing	7	7
Tax Revenue	7	7
Power	6	7
Education	5	5
Tobacco	2	2
Water & Sewer	1	1

### Credit Quality Allocations<sup>5</sup>

Credit Rating	12/31/08	6/30/08
AAA/Aaa	10%	7%
AA/Aa	4	7
A/A	10	4
BBB/Baa	21	18
BB/Ba	10	11
B/B	4	5
CCC/Caa	3	4
CC/Ca	1	1
Not Rated <sup>6</sup>	37	43

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- <sup>5</sup> Using the higher of Standard & Poor's or Moody's Investors Service ratings.
- <sup>6</sup> The Advisor has deemed certain of these not-rated securities to be of investment grade quality. As of December 31, 2008 and June 30, 2008, the market value of these securities was \$8,553,293 and \$8,940,500, representing 6% and 5% of the Fund's long-term investments, respectively.

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BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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### The Benefits and Risks of Leveraging

The Fund may utilize leverage to seek to enhance the yield and NAV of their Common Shares. However, these objectives cannot be achieved in all interest rate environments.

The Fund may from time to time leverage its assets through the use of tender option bond (“TOB”) programs, as described in Note 1 of the Notes to Financial Statements. TOB investments generally will provide the Fund with economic benefits in periods of declining short-term interest rates, but expose the Fund to risks during periods of rising short-term interest rates. Additionally, fluctuations in the market value of municipal securities deposited into the TOB trust may adversely affect the Fund’s NAV per share.

The interest earned on securities purchased with the proceeds from tender option bond (“TOB”) programs, as described in Note 1 of the Notes to Financial Statements, is paid to Common Shareholders in the form of dividends, and the value of these portfolio holdings is reflected in the per share NAV of each Fund’s Common Shares. However, in order to benefit Common Shareholders, the yield curve must be positively sloped; that is, short-term interest rates must be lower than long-term interest rates. If the yield curve becomes negatively sloped, meaning short-term interest rates exceed long-term interest rates, returns to Common Shareholders will be lower than if the Funds had not used leverage.

To illustrate these concepts, assume the Fund’s Common Shares capitalization is \$100 million and it issues TOBs for an additional \$30 million, creating a total value of \$130 million available for investment in long-term securities. If prevailing short-term interest rates are 3% and long-term interest rates are 6%, the yield curve has a strongly positive slope. In this case, the Fund pays interest expense on the \$30 million of TOBs based on the lower short-term interest rates. At the same time, the Fund’s total portfolio of \$130 million earns the income based on long-term interest rates. In this case, the interest expense of the TOBs is significantly lower than the income earned on the Fund’s long-term investments, and therefore the Common Shareholders are the beneficiaries of the incremental yield.

Conversely, if prevailing short-term interest rates rise above long-term interest rates of 6%, the yield curve has a negative slope. In this case, the Fund pays interest expense on the higher short-term interest rates whereas the Fund’s total portfolio earns income based on lower long-term interest rates. If short-term interest rates rise, narrowing the differential between short-term and long-term interest rates, the incremental yield pickup on the Common Shares will be reduced or eliminated completely.

Furthermore, the value of the Fund’s portfolio investments generally varies inversely with the direction of long-term interest rates, although other factors can influence the value of portfolio investments. In contrast, the redemption value of the Fund’s TOBs do not fluctuate in relation to interest rates. As a result, changes in interest rates can influence the Fund’s NAV positively or negatively in addition to the impact on Fund performance from leverage from TOBs.

The use of leverage may enhance opportunities for increased returns to the Fund and Common Shareholders, but as described above, it also creates risks as short- or long-term interest rates fluctuate. Leverage also will generally cause greater changes in the Fund’s NAV, market price and dividend rate than a comparable portfolio without leverage. If the income derived from securities purchased with assets received from leverage exceeds the cost of leverage, the Fund’s net income will be greater than if leverage had not been used. Conversely, if the income from the securities purchased is not sufficient to cover the cost of leverage, the Fund’s net income will be less than if leverage had not been used, and therefore the amount available for distribution to shareholders will be reduced. The Fund may be required to sell portfolio securities at inopportune times or below fair market values in order to comply with regulatory requirements applicable to the use of leverage or as required by the terms of leverage instruments which may cause the Fund to incur losses. The use of leverage may limit the Fund’s ability to invest in certain types of securities or use certain types of hedging strategies, such as in the case of certain restrictions imposed by ratings agencies that rate preferred shares issued by a Fund. The Fund will incur expenses in connection with the use of leverage, all of which are borne by the holders of the Common Shares and may reduce returns on the Common Shares.

Under normal circumstances, the Fund anticipates that the total economic leverage from TOBs will not exceed 5% of its total managed assets at the time such leverage is incurred. As of December 31, 2008, the Fund had economic leverage from TOBs of 2% as a percentage of total managed assets.

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Schedule of Investments December 31, 2008 (Unaudited)

(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
<b>Alabama — 1.9%</b>		
Jefferson County, Alabama, Limited Obligation School Warrants, Series A:		
5%, 1/01/09	\$ 1,600	\$ 1,600,000
5%, 1/01/10	475	409,042
Tuscaloosa, Alabama, Special Care Facilities Financing Authority, Residential Care Facility Revenue Bonds (Capstone Village, Inc. Project), Series A, 5.875%, 8/01/36 (a)(b)	1,255	683,850
		2,692,892
<b>Alaska — 1.1%</b>		
Alaska Industrial Development and Export Authority Revenue Bonds (Williams Lynxs Alaska Cargoport), AMT, 8%, 5/01/23	2,000	1,570,420
<b>Arizona — 4.0%</b>		
Maricopa County, Arizona, IDA, Education Revenue Bonds (Arizona Charter Schools Project 1), Series A, 6.625%, 7/01/20	1,100	813,857
Maricopa County, Arizona, IDA, M/F Housing Revenue Bonds (Sun King Apartments Project), Series A: 6%, 11/01/10	20	19,295
6.75%, 5/01/31	1,020	685,909
Phoenix, Arizona, IDA, Airport Facility, Revenue Refunding Bonds (America West Airlines Inc. Project), AMT, 6.30%, 4/01/23	2,950	1,641,203
Pima County, Arizona, IDA, Education Revenue Bonds (Arizona Charter Schools Project), Series E, 7.25%, 7/01/31	960	758,237
Salt Verde Financial Corporation, Arizona, Senior Gas Revenue Bonds:		
5%, 12/01/32	1,950	1,252,329
5%, 12/01/37	230	143,639
Yavapai County, Arizona, IDA, Hospital Facility Revenue Bonds (Yavapai Regional Medical Center), Series A, 6%, 8/01/33	500	361,175
		5,675,644
<b>California — 2.8%</b>		
Fontana, California, Special Tax, Refunding (Community Facilities District Number 22 — Sierra), 6%, 9/01/34	1,000	666,820
San Jose, California, Airport Revenue Refunding Bonds, AMT, Series A, 5.50%, 3/01/32 (c)	2,970	2,370,862

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Southern California Public Power Authority, Natural Gas Project Number 1 Revenue Bonds, Series A, 5%, 11/01/29	1,435	913,334
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3,951,016

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Municipal Bonds	Par (000)	Value
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**Colorado — 4.3%**

Colorado Health Facilities Authority, Revenue Refunding Bonds (Christian Living Communities Project), Series A, 5.75%, 1/01/26	\$ 450	\$ 282,672
Elk Valley, Colorado, Public Improvement Revenue Bonds (Public Improvement Fee), Series A, 7.30%, 9/01/22	2,800	2,329,320
North Range Metropolitan District Number 1, Colorado, GO, 7.25%, 12/15/11 (d)	1,235	1,400,626
Plaza Metropolitan District Number 1, Colorado, Tax Allocation Revenue Bonds (Public Improvement Fees):		
8%, 12/01/25	2,000	1,614,520
8.125%, 12/01/25	500	392,180
		<hr/> 6,019,318

**Connecticut — 0.5%**

Connecticut State Development Authority, Airport Facility Revenue Bonds (Learjet Inc. Project), AMT, 7.95%, 4/01/26	490	403,775
Mashantucket Western Pequot Tribe, Connecticut, Revenue Refunding Bonds, Sub-Series A, 5.50%, 9/01/36	615	361,706
		<hr/> 765,481

**Florida — 11.1%**

Capital Projects Finance Authority, Florida, Continuing Care Retirement Revenue Bonds (Glenridge on Palmer Ranch), Series A, 8%, 6/01/12 (d)	800	946,584
Capital Region Community Development District, Florida, Special Assessment Revenue Bonds, Series A, 7%, 5/01/39	470	292,176
Halifax Hospital Medical Center, Florida, Hospital Revenue Refunding Bonds, Series A, 5%, 6/01/38	840	435,086
Hillsborough County, Florida, IDA, Exempt Facilities Revenue Bonds (National Gypsum Company), AMT, Series A, 7.125%, 4/01/30	2,500	1,324,750
Jacksonville, Florida, Economic Development Commission, Health Care Facilities, Revenue Refunding Bonds (Florida Proton Therapy Institute), Series A, 6%, 9/01/17	915	743,511
Jacksonville, Florida, Economic Development Commission, IDR (Gerdau Ameristeel US, Inc.), AMT, 5.30%, 5/01/37	900	387,000
	735	807,118

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Lakewood Ranch, Florida, Community Development  
District Number 5, Special Assessment Revenue  
Refunding Bonds, Series A, 6.70%, 5/01/11 (d)  
Lee County, Florida, IDA, IDR (Lee Charter Foundation),  
Series A, 5.375%, 6/15/37

1,810

987,156

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**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 list on the right.

**AMT** Alternative Minimum Tax (subject to)  
**EDA** Economic Development Authority  
**GO** General Obligation Bonds  
**HDA** Housing Development Authority  
**IDA** Industrial Development Authority  
**IDR** Industrial Development Revenue Bonds  
**M/F** Multi-Family  
**PCR** Pollution Control Revenue Bonds

See Notes to Financial Statements.

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BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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## Schedule of Investments (continued)

(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
<b>Florida (concluded)</b>		
Midtown Miami, Florida, Community Development District, Special Assessment Revenue Bonds, Series A:		
6%, 5/01/24	\$ 1,485	\$ 1,028,244
6.25%, 5/01/37	1,350	837,445
Orlando, Florida, Urban Community Development District, Capital Improvement Special Assessment Bonds, Series A, 6.95%, 5/01/11 (d)	1,505	1,661,385
Santa Rosa Bay Bridge Authority, Florida, Revenue Bonds, 6.25%, 7/01/28	2,140	1,348,307
Sarasota County, Florida, Health Facilities Authority, Retirement Facility Revenue Refunding Bonds (Village on the Isle Project):		
5.50%, 1/01/27	590	350,997
5.50%, 1/01/32	550	297,589
Sumter Landing Community Development District, Florida, Recreational Revenue Bonds, Sub-Series B, 5.70%, 10/01/38	1,645	974,185
Tampa Palms, Florida, Open Space and Transportation Community Development District Revenue Bonds, Capital Improvement (Richmond Place Project), 7.50%, 5/01/18	2,235	2,038,991
Tolomato Community Development District, Florida, Special Assessment Bonds, 6.65%, 5/01/40	1,850	1,069,078
		<u>15,529,602</u>
<b>Georgia — 1.9%</b>		
Atlanta, Georgia, Tax Allocation Bonds (Princeton Lakes Project), 5.50%, 1/01/31	395	249,253
Clayton County, Georgia, Tax Allocation Bonds (Ellenwood Project), 7.50%, 7/01/33	1,640	1,293,271
Main Street Natural Gas, Inc., Georgia, Gas Project Revenue Bonds, Series A, 6.375%, 7/15/38 (a)(b)	650	82,888
Rockdale County, Georgia, Development Authority Revenue Bonds (Visy Paper Project), AMT, Series A, 6.125%, 1/01/34	1,680	1,043,683
		<u>2,669,095</u>
<b>Illinois — 4.1%</b>		
Chicago, Illinois, O'Hare International Airport, Special Facility Revenue Refunding Bonds (American Airlines Inc. Project), 5.50%, 12/01/30	2,860	1,025,367
Illinois State Finance Authority Revenue Bonds: (Clare At Water Tower Project), Series A, 6.125%, 5/15/38	2,050	1,202,694

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(Landing At Plymouth Place Project), Series A, 6%, 5/15/37	430	248,252
(Monarch Landing, Inc. Project), Series A, 7%, 12/01/37	575	360,381
(Primary Health Care Centers Program), 6.60%, 7/01/24	490	346,239
Lincolnshire, Illinois, Special Service Area Number 1, Special Tax Bonds (Sedgebrook Project), 6.25%, 3/01/34	755	452,947
Lombard, Illinois, Public Facilities Corporation, First Tier Revenue Bonds (Conference Center and Hotel), Series A-1, 7.125%, 1/01/36	2,400	1,559,976
Village of Wheeling, Illinois, Revenue Bonds (North Milwaukee/Lake-Cook Tax Increment Financing (TIF) Redevelopment Project), 6%, 1/01/25	760	499,784
		5,695,640

Municipal Bonds	Par (000)	Value
<b>Indiana — 1.7%</b>		
Indiana Health and Educational Facilities Financing Authority, Hospital Revenue Bonds (Community Foundation of Northwest Indiana), 5.50%, 3/01/37	\$ 1,985	\$ 1,310,576
Vanderburgh County, Indiana, Redevelopment Commission, Redevelopment District Tax Allocation Bonds, 5.25%, 2/01/31	820	582,036
Vigo County, Indiana, Hospital Authority Revenue Bonds (Union Hospital, Inc.): 5.70%, 9/01/37	440	251,456
5.75%, 9/01/42	545	306,830
		2,450,898
<b>Iowa — 2.2%</b>		
Iowa Finance Authority, Health Care Facilities, Revenue Refunding Bonds (Care Initiatives Project), 9.25%, 7/01/11 (d)	2,580	3,094,426
<b>Kansas — 0.1%</b>		
Wyandotte County, Kansas, Kansas City Unified Government Revenue Refunding Bonds (General Motors Corporation Project), 6%, 6/01/25	1,230	196,788
<b>Louisiana — 2.3%</b>		
Louisiana Local Government Environmental Facilities and Community Development Authority Revenue Bonds (Westlake Chemical Corporation), 6.75%, 11/01/32	2,000	1,091,000
Louisiana Public Facilities Authority, Hospital Revenue Bonds (Franciscan Missionaries of Our Lady Health System, Inc.), Series A, 5.25%, 8/15/36	1,300	921,752
Saint John Baptist Parish, Louisiana, Revenue Bonds (Marathon Oil Corporation), Series A,	2,050	1,209,623

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5.125%, 6/01/37

3,222,375

**Maryland — 1.0%**

Baltimore, Maryland, Convention Center Hotel Revenue Bonds, Sub-Series B, 5.875%, 9/01/39	385	205,501
Maryland State Energy Financing Administration, Limited Obligation Revenue Bonds (Cogeneration-AES Warrior Run), AMT, 7.40%, 9/01/19	1,500	1,039,680
Maryland State Health and Higher Educational Facilities Authority Revenue Bonds (Washington Christian Academy), 5.50%, 7/01/38	410	220,379

1,465,560

**Massachusetts — 3.1%**

Massachusetts State Development Finance Agency, First Mortgage Revenue Bonds (Overlook Communities Inc.), Series A, 6.25%, 7/01/34	1,845	1,158,678
Massachusetts State Development Finance Agency, Revenue Refunding Bonds (Eastern Nazarene College), 5.625%, 4/01/19	1,245	982,006
Massachusetts State Health and Educational Facilities Authority Revenue Bonds (Jordan Hospital), Series E, 6.75%, 10/01/33	850	580,694

See Notes to Financial Statements.

BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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## Schedule of Investments (continued)

(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
<b>Massachusetts (concluded)</b>		
Massachusetts State Health and Educational Facilities Authority, Revenue Refunding Bonds: (Bay Cove Human Services Issue), Series A, 5.90%, 4/01/28	\$ 1,030	\$ 682,571
(Milton Hospital), Series, 5.50%, 7/01/16	500	415,125
Massachusetts State Industrial Finance Agency Revenue Bonds, Sewer Facility (Resource Control Composting), AMT, 9.25%, 6/01/10	500	504,735
		<u>4,323,809</u>
<b>Michigan — 0.8%</b>		
Advanced Technology Academy, Michigan, Revenue Bonds, 6%, 11/01/37	625	417,038
Monroe County, Michigan, Hospital Financing Authority, Hospital Revenue Refunding Bonds (Mercy Memorial Hospital Corporation), 5.50%, 6/01/35	1,260	689,888
		<u>1,106,926</u>
<b>Minnesota — 0.9%</b>		
Minneapolis, Minnesota, Health Care System Revenue Refunding Bonds (Fairview Health Services), Series A, 6.75%, 11/15/32	1,240	1,225,393
<b>Missouri — 0.5%</b>		
Kansas City, Missouri, IDA, First Mortgage Health Facilities Revenue Bonds (Bishop Spencer Place), Series A, 6.50%, 1/01/35	1,000	638,380
<b>Nevada — 0.5%</b>		
Clark County, Nevada, IDR (Nevada Power Company Project), AMT, Series A, 5.60%, 10/01/30	955	514,611
Clark County, Nevada, Improvement District Number 142, Special Assessment Bonds, 6.375%, 8/01/23	410	253,872
		<u>768,483</u>
<b>New Hampshire — 0.3%</b>		
New Hampshire Health and Education Facilities Authority, Hospital Revenue Bonds (Catholic Medical Center), 5%, 7/01/36	835	473,345



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<b>New Jersey — 10.0%</b>		
Camden County, New Jersey, Pollution Control Financing Authority, Solid Waste Resource Recovery, Revenue Refunding Bonds, AMT, Series A, 7.50%, 12/01/10	6,000	6,005,820
New Jersey EDA, Cigarette Tax Revenue Bonds, 5.50%, 6/15/24	2,170	1,596,100
New Jersey EDA, IDR, Refunding (Newark Airport Marriott Hotel), 7%, 10/01/14	1,500	1,256,460
New Jersey EDA, Retirement Community Revenue Bonds (Cedar Crest Village Inc. Facility), Series A, 7.25%, 11/15/11 (d)	530	602,997
New Jersey EDA, Special Facility Revenue Bonds (Continental Airlines Inc. Project), AMT: 6.625%, 9/15/12	3,050	2,275,605
6.25%, 9/15/29	1,000	520,260

<b>Municipal Bonds</b>	<b>Par (000)</b>	<b>Value</b>
<b>New Jersey (concluded)</b>		
New Jersey Health Care Facilities Financing Authority Revenue Bonds (Pascack Valley Hospital Association), 6.625%, 7/01/36 (a)(b)	\$ 1,870	\$ 62,645
New Jersey Health Care Facilities Financing Authority, Revenue Refunding Bonds (Saint Joseph's Healthcare System), 6.625%, 7/01/38	1,680	1,181,191
New Jersey State Transportation Trust Fund Authority, Transportation System Revenue Bonds, Series C, 5.05%, 12/15/35 (c)(e)	2,760	478,197
		<u>13,979,275</u>

<b>New Mexico — 3.3%</b>		
Farmington, New Mexico, PCR, Refunding (Tucson Electric Power Company — San Juan Project), Series A, 6.95%, 10/01/20	5,000	4,702,350

<b>New York — 4.6%</b>		
Dutchess County, New York, IDA, Civic Facility Revenue Bonds (Saint Francis Hospital), Series B, 7.50%, 3/01/29	1,000	859,990
Metropolitan Transportation Authority, New York, Revenue Bonds, Series C, 6.50%, 11/15/28	2,000	2,087,140
New York City, New York, City IDA, Civic Facility Revenue Bonds:		
Series C, 6.80%, 6/01/28 (Special Needs Facility Pooled Program), Series C-1, 6.50%, 7/01/24	350	297,972
	830	622,749
New York City, New York, City IDA, Special Facility Revenue Bonds (British Airways Plc Project), AMT, 7.625%, 12/01/32	1,730	1,128,721
New York Liberty Development Corporation Revenue Bonds (National Sports Museum Project), Series A, 6.125%, 2/15/19 (a)(b)	630	74,025
New York State Dormitory Authority, Non-State Supported Debt, Revenue Refunding Bonds (New York University Hospital Center), Series A,	2,040	1,370,125

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5%, 7/01/20

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6,440,722

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**North Carolina — 1.7%**

North Carolina Medical Care Commission, Health  
Care Facilities, First Mortgage Revenue Refunding  
Bonds (Deerfield Episcopal Project), Series A,  
6.125%, 11/01/38

3,230 2,328,055

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**Ohio — 1.1%**

Buckeye Tobacco Settlement Financing Authority,  
Ohio, Tobacco Settlement Asset-Backed Bonds,  
Series A-2, 6.50%, 6/01/47

2,685 1,604,234

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**Pennsylvania — 7.9%**

Bucks County, Pennsylvania, IDA, Retirement  
Community Revenue Bonds (Ann's Choice Inc.),  
Series A, 6.125%, 1/01/25

1,160 788,162

Chester County, Pennsylvania, Health and Education  
Facilities Authority, Senior Living Revenue Refunding  
Bonds (Jenners Pond Inc. Project),  
7.625%, 7/01/12 (d)

1,750 2,096,273

See Notes to Financial Statements.

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## Schedule of Investments (continued)

(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
<b>Pennsylvania (concluded)</b>		
Harrisburg, Pennsylvania, Authority, University Revenue Bonds (Harrisburg University of Science), Series B, 6%, 9/01/36	\$ 600	\$ 386,892
Lancaster County, Pennsylvania, Hospital Authority Revenue Bonds (Brethren Village Project), Series A: 6.25%, 7/01/26	475	346,436
6.50%, 7/01/40	410	270,420
Montgomery County, Pennsylvania, IDA, Revenue Bonds (Whitemarsh Continuing Care Project), 6.25%, 2/01/35	1,700	1,012,537
Pennsylvania Economic Development Financing Authority, Exempt Facilities Revenue Bonds (Reliant Energy), AMT, Series B, 6.75%, 12/01/36	1,940	1,241,600
Philadelphia, Pennsylvania, Authority for IDR: (Air Cargo), AMT, Series A, 7.50%, 1/01/25	1,600	1,264,272
Commercial Development, 7.75%, 12/01/17	4,460	3,699,570
		11,106,162
<b>Rhode Island — 0.7%</b>		
Central Falls, Rhode Island, Detention Facility Corporation, Revenue Refunding Bonds, 7.25%, 7/15/35	1,750	973,350
<b>South Carolina — 4.3%</b>		
Connector 2000 Association, Inc., South Carolina, Toll Road and Capital Appreciation Revenue Bonds, Senior-Series B (e): 6.50%, 1/01/09	1,100	1,100,000
8.604%, 1/01/14	1,075	572,685
South Carolina Housing Finance and Development Authority, Mortgage Revenue Refunding Bonds, AMT, Series A-2, 5.15%, 7/01/37 (c)	5,690	4,344,031
		6,016,716
<b>Tennessee — 1.4%</b>		
Knox County, Tennessee, Health, Educational and Housing Facilities Board, Hospital Facilities Revenue Refunding Bonds (Covenant Health), Series A, 5.03%, 1/01/37 (e)	5,000	477,050
Shelby County, Tennessee, Health, Educational and Housing Facilities Board Revenue Bonds (Germantown Village): 6.25%, 12/01/34	245	150,628
Series A, 7.25%, 12/01/34	1,800	1,264,752

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		1,892,430
<b>Texas — 4.7%</b>		
Brazos River Authority, Texas, PCR, Refunding (TXU Energy Company LLC Project), AMT, Series A, 7.70%, 4/01/33	2,530	1,627,321
Danbury, Texas, Higher Education Authority Revenue Bonds (A.W. Brown-Fellowship Charter School), Series A, 5.125%, 8/15/36 (f)	1,000	572,980
Harris County, Texas, Health Facilities Development Corporation, Hospital Revenue Refunding Bonds (Memorial Hermann Healthcare System), Series B, 7.25%, 12/01/35	1,110	1,122,399
	<b>Par (000)</b>	<b>Value</b>
<b>Municipal Bonds</b>		
<b>Texas (concluded)</b>		
North Texas Tollway Authority, System Revenue Refunding Bonds, Second Tier, Series F, 6.125%, 1/01/31	\$ 2,250	\$ 2,003,040
Texas State Public Financing Authority, Charter School Financing Corporation, Revenue Refunding Bonds (KIPP, Inc.), Series A, 5%, 2/15/28 (f)	2,250	1,231,808
		6,557,548
<b>Utah — 1.3%</b>		
Carbon County, Utah, Solid Waste Disposal, Revenue Refunding Bonds (Laidlaw Environmental), AMT, Series A, 7.45%, 7/01/17	2,240	1,887,491
<b>Virginia — 5.3%</b>		
Dulles Town Center, Virginia, Community Development Authority, Special Assessment Tax (Dulles Town Center Project), 6.25%, 3/01/26	2,430	1,668,001
Tobacco Settlement Financing Corporation of Virginia, Revenue Refunding Bonds, Senior Series B-1, 5%, 6/01/47	1,250	620,263
Virginia State, HDA, Commonwealth Mortgage Revenue Bonds, Series H, Sub-Series H-1, 5.375%, 7/01/36 (g)	5,710	5,182,453
		7,470,717
<b>West Virginia — 0.6%</b>		
Princeton, West Virginia, Hospital Revenue Refunding Bonds (Community Hospital Association Inc. Project), 6.20%, 5/01/13	965	871,848
<b>Wisconsin — 0.7%</b>		
Wisconsin State Health and Educational Facilities Authority Revenue Bonds (New Castle Place Project), Series A, 7%, 12/01/31	1,320	938,388
<b>Wyoming — 2.3%</b>		

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Sweetwater County, Wyoming, Solid Waste Disposal, Revenue Refunding Bonds (FMC Corporation Project), AMT, 5.60%, 12/01/35	2,500	1,471,850
Wyoming Municipal Power Agency, Power Supply Revenue Bonds, Series A, 5.375%, 1/01/42	2,090	1,721,282
		3,193,132

**US Virgin Islands — 1.1%**

Virgin Islands Government Refinery Facilities, Revenue Refunding Bonds (Hovenssa Coker Project), AMT, 6.50%, 7/01/21	2,100	1,512,230
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**Total Municipal Bonds — 96.1%**

135,010,139

See Notes to Financial Statements.

BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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## Schedule of Investments (concluded)

(Percentages shown are based on Net Assets)

Municipal Bonds Transferred to Tender Option Bond Trusts (h)	Par (000)	Value
<b>Florida — 3.3%</b>		
Miami-Dade County, Florida, Aviation Revenue Refunding Bonds (Miami International Airport), AMT, Series A, 5.25%, 10/01/33 (i)	\$ 6,130	\$ 4,604,120
<b>Total Municipal Bonds Transferred to Tender Option Bond Trusts — 3.3%</b>		4,604,120
<b>Total Long-Term Investments (Cost — \$186,864,143) — 99.4%</b>		139,614,259

Short-Term Securities	Shares	
Merrill Lynch Institutional Tax-Exempt Fund, 1.18% (j)(k)	701,092	701,092
<b>Total Short-Term Securities (Cost — \$701,092) — 0.5%</b>		701,092
<b>Total Investments (Cost — \$187,565,235*) — 99.9%</b>		140,315,351
<b>Other Assets Less Liabilities — 2.3%</b>		3,274,100
<b>Liability for Trust Certificates, Including Interest Expense and Fees Payable — (2.2)%</b>		(3,083,369)
<b>Net Assets — 100.0%</b>		\$ 140,506,082

\* The cost and unrealized appreciation (depreciation) of investments as of December 31, 2008, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$ 183,759,146
Gross unrealized appreciation	\$ 1,890,405
Gross unrealized depreciation	(48,399,200)

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Net unrealized depreciation \$ (46,508,795)

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- (a) Non-income producing security.
- (b) Issuer filed for bankruptcy and/or is in default of interest payments.
- (c) AMBAC Insured.
- (d) US government securities, held in escrow, are used to pay interest on this security as well as to retire the bond in full at the date indicated, typically at a premium to par.
- (e) Represents a zero-coupon bond. Rate shown reflects the effective yield as of report date.
- (f) ACA Insured.
- (g) MBIA Insured.
- (h) Securities represent underlying bonds transferred to a tender option bond trust in exchange for which the Fund acquired the residual interest certificates. These securities serve as collateral in a financing transaction. See Note 1 to Financial Statements for details of municipal bonds transferred to tender option bond trusts.
- (i) Assured Guaranty Insured.
- (j) 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:

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Affiliate	Net Activity	Income
Merrill Lynch Institutional Tax-Exempt Fund	(3,803,982)	\$ 19,988

- (k) Represents the current yield as of report date.
- Effective July 1, 2008, the Fund adopted Financial Accounting Standards Board Statement of Financial Accounting Standards No. 157, “Fair Value Measurements” (“FAS 157”). FAS 157 clarifies the definition of fair value, establishes a framework for measuring fair values and requires additional disclosures about the use of 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 securities
    - Level 2 — other observable inputs (including, but not limited to: quoted prices for 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 circumstance, to the extent observable inputs are not available (including the Fund’s own assumption used in determining the fair value of investments)

The inputs or methodology 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

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refer to Note 1 of the Notes to Financial Statements.

The following table summarizes the inputs used as of December 31, 2008 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Investments in Securities
	Assets
Level 1	\$ 701,092
Level 2	139,614,259
Level 3	—
<b>Total</b>	<b>\$ 140,315,351</b>

See Notes to Financial Statements.



## Statement of Assets and Liabilities

December 31, 2008 (Unaudited)

**Assets**

Investments at value – unaffiliated (cost – \$186,864,143)	\$ 139,614,259
Investments at value – affiliated (cost – \$701,092)	701,092
Cash	34
Interest receivable	3,371,022
Investments sold receivable	110,000
Prepaid expenses	5,822
	<hr/>
Total assets	143,802,229

**Accrued Liabilities**

Income dividends payable	94,193
Investment advisory fees payable	82,324
Interest expense and fees payable	18,369
Officer's and Directors' fees payable	127
Other affiliates payable	771
Other accrued expenses payable	35,363
	<hr/>
Total accrued liabilities	231,147

**Other Liabilities**

Trust certificates <sup>1</sup>	3,065,000
	<hr/>

<b>Total Liabilities</b>	<b>3,296,147</b>
	<hr/>

<b>Net Assets</b>	<b>\$ 140,506,082</b>
	<hr/>

**Net Assets Consist of**

Par value \$0.10 per share, 150,000,000 shares authorized; 19,919,225 shares issued and outstanding	\$ 1,991,923
Paid-in capital in excess of par	199,382,860
Undistributed net investment income	1,289,349
Accumulated net realized loss	(14,908,166)
Net unrealized appreciation/depreciation	(47,249,884)

<b>Net Assets</b> , \$7.05 net asset value per share	\$ 140,506,082
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## Statement of Operations

### Six Months Ended December 31, 2008 (Unaudited)

#### Investment Income

Interest	\$ 6,511,558
Income – affiliated	19,988
	6,531,546

#### Expenses

Investment advisory	563,953
Accounting services	37,576
Professional	28,739
Printing	22,885
Transfer agent	16,137
Officer and Directors	9,287
Custodian	6,601
Registration	5,335
Miscellaneous	23,098
	713,611
Total expenses excluding interest expense and fees	713,611
Interest expense and fees <sup>2</sup>	70,327
	783,938
Total expenses	783,938
Less fees waived by advisor	(2,002)
	781,936
Total expenses after waiver	781,936
	5,749,610
Net investment income	5,749,610

#### Realized and Unrealized Loss

Net realized loss from investments	(502,078)
Net change in unrealized appreciation/depreciation on investments	(41,202,750)
	(41,704,828)
Total realized and unrealized loss	(41,704,828)
<b>Net Decrease in Net Assets Resulting from Operations</b>	<b>\$ (35,955,218)</b>

<sup>1</sup> Represents short-term floating rate certificates issued by tender option bond trusts.

<sup>2</sup> Related to tender option bond trusts.

See Notes to Financial Statements.

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BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 30, 2008

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## Statements of Changes in Net Assets

Increase (Decrease) in Net Assets:	Six Months Ended December 31, 2008 (Unaudited)	Year Ended June 30, 2008
<b>Operations</b>		
Net investment income	\$ 5,749,610	\$ 10,673,792
Net realized gain (loss)	(502,078)	116,440
Net change in unrealized appreciation/depreciation	(41,202,750)	(15,493,679)
Net decrease in net assets resulting from operations	(35,955,218)	(4,703,447)
<b>Dividends to Shareholders From</b>		
Net investment income	(5,553,949)	(11,460,645)
<b>Capital Share Transactions</b>		
Reinvestment of dividends	359,550	993,437
<b>Net Assets</b>		
Total decrease in net assets	(41,149,617)	(15,170,655)
Beginning of period	181,655,699	196,826,354
End of period	\$ 140,506,082	\$ 181,655,699
End of period undistributed net investment income	\$ 1,289,349	\$ 1,093,688

See Notes to Financial Statements.

## Financial Highlights

	Six Months Ended December 31, 2008 (Unaudited)	Year Ended June 30,				
		2008	2007	2006	2005	2004
<b>Per Share Operating Performance</b>						
Net asset value, beginning of period	\$ 9.14	\$ 9.95	\$ 9.90	\$ 9.82	\$ 9.13	\$ 8.99
Net investment income <sup>1</sup>	0.29	0.54	0.58	0.58	0.58	0.60
Net realized and unrealized gain (loss)	(2.10)	(0.77)	0.06	0.08	0.69	0.11
Net increase (decrease) from investment operations	(1.81)	(0.23)	0.64	0.66	1.27	0.71
Dividends and distributions from:						
Net investment income	(0.28)	(0.58)	(0.59)	(0.58)	(0.58)	(0.57)
Net realized gain	—	—	—	—	—	(0.00) <sup>2</sup>
Total dividends and distributions	(0.28)	(0.58)	(0.59)	(0.58)	(0.58)	(0.57)
Net asset value, end of period	\$ 7.05	\$ 9.14	\$ 9.95	\$ 9.90	\$ 9.82	\$ 9.13
Market price, end of period	\$ 6.29	\$ 9.28	\$ 10.23	\$ 10.25	\$ 9.48	\$ 8.26
<b>Total Investment Return<sup>3</sup></b>						
Based on net asset value	(20.02)% <sup>4</sup>	(2.40)%	6.48%	7.00%	14.67%	8.64%
Based on market price	(29.72)% <sup>4</sup>	(3.61)%	5.73%	14.76%	22.36%	4.20%
<b>Ratios to Average Net Assets</b>						
Total expenses after waiver and excluding interest expense and fees <sup>5</sup>	0.85% <sup>6</sup>	0.80%	0.80%	0.80%	0.80%	0.79%
Total expenses after waiver	0.93% <sup>6</sup>	0.84%	0.80%	0.80%	0.80%	0.79%
Total expenses	0.93% <sup>6</sup>	0.85%	0.80%	0.81%	0.80%	0.79%

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Net investment income	6.85% <sup>6</sup>	5.64%	5.75%	5.83%	6.11%	6.52%
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**Supplemental Data**

Net assets, end of period (000)	\$ 140,506	\$ 181,656	\$ 196,826	\$ 194,646	\$ 192,475	\$ 178,983
Portfolio turnover	12%	12%	22%	19%	22%	19%

<sup>1</sup> Based on average shares outstanding.

<sup>2</sup> Amount is less than \$(0.01) per share.

<sup>3</sup> Total investment returns based on market value, which can be significantly greater or lesser than the net asset value, may result in substantially different returns. Total investment returns exclude the effects of sales charges.

<sup>4</sup> Aggregate total investment return.

<sup>5</sup> Interest expense and fees relate to tender option bond trusts. See Note 1 of the Notes to Financial Statements for details of municipal bonds transferred to tender option bond trusts.

<sup>6</sup> Annualized.

See Notes to Financial Statements.

BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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**Notes to Financial Statements (Unaudited)****1. Organization and Significant Accounting Policies:**

BlackRock Apex Municipal Fund, Inc. (the “Fund”), is registered under the Investment Company Act of 1940, as amended (the “1940 Act”), as a non-diversified, closed-end management investment company. The Fund is organized as a Maryland corporation. The Fund’s financial statements are prepared in conformity with accounting principles generally accepted in the United States of America, which may require the use of management accruals and estimates. Actual results may differ from these estimates. The Fund determines and makes available for publication the net asset value of its Common Stock on a daily basis.

The following is a summary of significant accounting policies followed the Fund:

**Valuation of Investments:** Municipal investments (including commitments to purchase such investments on a “when-issued” basis) are valued on the basis of prices provided by dealers or pricing services selected under the supervision of the Fund’s Board of Directors (the “Board”). In determining the value of a particular investment, pricing services may use certain information with respect to transactions in such investments, quotations from bond dealers, pricing matrixes, market transactions in comparable investments and information with respect to various relationships between investments. Short-term securities with maturities less than 60 days are valued at amortized cost, which approximates fair value. Investments in open-end investment companies are valued at net asset value each business day.

In the event that application of these methods of valuation results in a price for an investment which is deemed not to be representative of the market value of such investment, the investment will be valued by a method approved by the Board as reflecting fair value (“Fair Value Assets”). When determining the price for Fair Value Assets, the investment advisor and/or sub-advisor seeks to determine the price that the Fund might reasonably expect to receive from the current sale of that asset in an arm’s-length transaction. Fair value determinations shall be based upon all available factors that the investment advisor and/or sub-advisor deems relevant. The pricing of all Fair Value Assets is subsequently reported to the Board or a committee thereof.

**Forward Commitments and When-Issued Delayed Delivery Securities:** The Fund may purchase securities on a when-issued basis and may purchase or sell securities on a forward commitment basis. Settlement of such transactions normally occurs within a month or more after the purchase or sale commitment is made. The Fund may purchase securities under such conditions only with the intention of actually acquiring them, but may enter into a separate agreement to sell the securities before the settlement date. Since the value of securities purchased may fluctuate prior to settlement, the Fund may be required to pay more at settlement than the security is worth. In addition, the purchaser is not entitled to any of the interest earned prior to settlement. When purchasing a security on a delay-delivery basis, the Fund assumes the rights and risks of ownership of the security, including the risk of price and yield fluctuations.

**Municipal Bonds Transferred to Tender Option Bond Trusts:** The Fund leverages its assets through the use of tender option bond trusts (“TOBs”). A TOB is established by a third party sponsor forming a special purpose entity, into which one or more funds, or an agent on behalf of the funds, transfers municipal securities. Other funds managed by the investment advisor may also contribute municipal securities to a TOB into which the Fund has contributed securities. A TOB typically issues two classes of beneficial interests: short-term floating rate certificates, which are sold to third party investors, and residual certificates (“TOB Residuals”), which are generally issued to the participating funds that made the transfer. The TOB Residuals held by the Fund include the right of the Fund (1) to cause the holders of a proportional share of the floating rate certificates to tender their certificates at par, and (2) to transfer, within seven days, a corresponding share of the municipal securities from the TOB to the Fund. The TOB may also be terminated without the consent of the Fund upon the occurrence of certain events as defined in the TOB agreements. Such termination events may include the bankruptcy or default of the municipal security, a substantial downgrade in credit quality of the municipal security, the inability of the TOB to obtain quarterly or annual renewal of the liquidity support agreement, a substantial decline in market value of the municipal security or the inability to remarket the short-term floating rate certificates to third party investors.

The cash received by the TOB from the sale of the short-term floating rate certificates, less transaction expenses, is paid to the Fund, which typically invests the cash in additional municipal securities. The Fund’s transfer of the municipal securities to a TOB is accounted for as a secured borrowing, therefore the municipal securities deposited into a TOB are presented in the Fund’s Schedule of Investments and the proceeds from the issuance of the short-term floating rate certificates are reported as a liability for Trust Certificates.

Interest income from the underlying securities is recorded by the Fund on an accrual basis. Interest expense incurred on the secured borrowing and other expenses related to remarketing, administration and trustee services to a TOB are reported as expenses of the Fund. The floating rate certificates have interest rates that generally reset weekly and their holders have the option to tender certificates to the TOB for redemption at par at each reset date. At December 31, 2008, the aggregate value of the underlying municipal securities transferred to TOBs was \$4,604,120, the related liability for trust certificates was \$3,065,000 and the interest rate on the liability for trust certificates was 2.371%.

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Financial transactions executed through TOBs generally will underperform the market for fixed rate municipal bonds when interest rates rise, but tend to outperform the market for fixed rate bonds when interest rates decline or remain relatively stable. Should short-term interest rates rise, the Fund's investment in TOBs may adversely affect the Fund's investment



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## Notes to Financial Statements (continued)

income and distributions to shareholders. Also, fluctuations in the market value of municipal securities deposited into the TOB may adversely affect the Fund's net asset value per share.

**Zero-Coupon Bonds:** The Fund may invest in zero-coupon bonds, which are normally issued at a significant discount from face value and do not provide for periodic interest payments. Zero-coupon bonds may experience greater volatility in market value than similar maturity debt obligations which provide for regular interest payments.

**Investment Transactions and Investment Income:** Investment transactions are recorded on the dates the transactions are entered into (the trade dates). Realized gains and losses on security transactions are determined on the identified cost basis. Interest income is recognized on the accrual method. The Fund amortizes all premiums and discounts on debt securities.

**Dividends and Distributions:** Dividends from net investment income are declared daily and paid monthly. Distributions of capital gains are recorded on the ex-dividend dates.

**Income Taxes:** It is the Fund's policy to comply with the requirements of the Internal Revenue Code applicable to regulated investment companies and to distribute substantially all of its taxable income to its shareholders. Therefore, no federal income tax provision is required.

The Fund files US federal and various state and local tax returns. No income tax returns are currently under examination. The statute of limitations on the Fund's US federal tax returns remains open for the years ended June 30, 2005 through June 30, 2007. The statutes of limitations on the Fund's state and local tax returns may remain open for an additional year depending upon the jurisdiction.

**Recent Accounting Pronouncement:** In March 2008, Statement of Financial Accounting Standards No. 161, "Disclosures about Derivative Instruments and Hedging Activities — an amendment of FASB Statement No. 133" ("FAS 161"), was issued. FAS 161 is intended to improve financial reporting for derivative instruments by requiring enhanced disclosure that enables investors to understand how and why an entity uses derivatives, how derivatives are accounted for and how derivative instruments affect an entity's results of operations and financial position. FAS 161 is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008. The impact on the Fund's financial statement disclosures, if any, is currently being assessed.

**Deferred Compensation and BlackRock Closed-End Share Equivalent Investment Plan:** Under the deferred compensation plan approved by the Fund's Board, non-interested Directors ("Independent Directors") defer a portion of their annual complex-wide compensation. Deferred amounts earn an approximate return as though equivalent dollar amounts have been invested in common shares of other certain BlackRock Closed-End Funds selected by the Independent Directors. This has approximately the same economic effect for the Independent Directors as if the Independent Directors had invested the deferred amounts directly in the other certain BlackRock Closed-End Funds.

The deferred compensation plan is not funded and obligations there-under represent general unsecured claims against the general assets of the Fund. The Fund may, however, elect to invest in common stock of other certain BlackRock Closed-End Funds selected by the Independent Directors in order to match its deferred compensation obligations.

**Other:** Expenses directly related to the Fund are charged to the Fund. Other operating expenses shared by several funds are pro-rated among those funds on the basis of relative net assets or other appropriate methods.

### 2. Investment Advisory Agreement and Other Transactions with Affiliates:

The Fund has entered into an Investment Advisory Agreement with BlackRock Advisors, LLC (the "Advisor"), an indirect, wholly owned subsidiary of BlackRock, Inc., to provide investment advisory and administration services. Merrill Lynch & Co., Inc. ("Merrill Lynch") and The PNC Financial Services Group, Inc. ("PNC") are the largest stockholders of BlackRock, Inc. As of December 31, 2008, Merrill Lynch and PNC are affiliates of BlackRock, Inc.

The Advisor is responsible for the management of the Fund's portfolio and provides the necessary personnel, facilities, equipment and certain other services necessary to the operations of the Fund. For such services, the Fund pays the Advisor a monthly fee at an annual rate of 0.65% of the Fund's average daily net assets. Average daily net assets is the average daily value of the Fund's total assets minus the sum of its accrued liabilities.

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The Advisor has agreed to waive its advisory fees by the amount of investment advisory fees the Fund pays to the Advisor indirectly through its investment in the affiliated Merrill Lynch Institutional Tax-Exempt Fund. This amount is included in fees waived by the advisor on the Statement of Operations.

The Advisor has entered into a separate sub-advisory agreement with BlackRock Investment Management, LLC. ("BIM"), an affiliate of the Advisor, under which the Advisor pays BIM for services it provides, a monthly fee that is a percentage of the investment advisory fee paid by the Fund to the Advisor.

For the six months ended December 31, 2008, the Fund reimbursed the Advisor \$1,397 for certain accounting services, which is included in accounting services in the Statement of Operations.

Certain officers and/or directors of the Fund are officers and/or directors of BlackRock, Inc. or its affiliates. The Fund reimburses the Advisor for compensation paid to the Fund's Chief Compliance Officer.

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BLACKROCK APEX MUNICIPAL FUND, INC.

DECEMBER 31, 2008

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Notes to Financial Statements (concluded)

**3. Investments:**

Purchases and sales of investments, excluding short-term securities, for the six months ended December 31, 2008 were \$19,180,750 and \$20,101,559, respectively.

**4. Concentration, Market and Credit Risk:**

The Fund invests a substantial amount of its assets in issuers located in a single state or limited number of states. Please see the Schedule of Investments for concentrations in specific states.

Many municipalities insure repayment of their bonds, which reduces the risk of loss due to issuer default. The market value of these bonds may fluctuate for other reasons, including market perception of the value of such issuance, and there is no guarantee that the issuer will meet its obligation.

In the normal course of business, the Fund invests in securities and enters into transactions where risks exist due to fluctuations in the market (market risk) or failure of the issuer of a security to meet all its obligations (credit risk). The value of securities held by the Fund may decline in response to certain events, including those directly involving the companies whose securities are owned by the Fund; conditions affecting the general economy; overall market changes; local, regional or global political, social or economic instability; and currency and interest rate and price fluctuations. Similar to credit risk, the Fund may be exposed to counterparty risk, or the risk that an entity with which the Fund has unsettled or open transactions may default. Financial assets, which potentially expose the Fund to credit and counterparty risks, consist principally of investments and cash due from counterparties. The extent of the Fund's exposure to credit and counterparty risks with respect to these financial assets is approximated by their value recorded in the Fund's Statement of Assets and Liabilities.

**5. Capital Share Transactions:**

The Fund is authorized to issue 150,000,000 shares, par value \$0.10 per share.

Shares issued and outstanding for the six months ended December 31, 2008 increased by 41,170 as a result of dividend reinvestment. Shares issued and outstanding for the year ended June 30, 2008 increased by 103,837 as a result of dividend reinvestment.

**6. Capital Loss Carryforward:**

On June 30, 2008, the Fund had a net capital loss carryforward of \$14,348,700, of which \$5,341,699 expires in 2009, \$2,075,987 expires in 2010, \$2,163,492 expires in 2011, \$1,659,281 expires in 2012, \$35,292 expires in 2013 and \$3,072,949 expires in 2015. This amount will be available to offset future realized capital gains.

**7. Subsequent Events:**

The Fund paid a tax-exempt dividend to holders of Common Stock in the amount of \$0.0465 per share on February 2, 2009 to shareholders of record on January 15, 2009.

On January 1, 2009, Bank of America Corporation announced that it had completed its acquisition of Merrill Lynch, one of the largest stockholders of BlackRock, Inc.

## Officers and Directors

Richard E. Cavanagh, Chairman of the Board and Director  
Karen P. Robards, Vice Chair of the Board,  
Chair of the Audit Committee and Director  
G. Nicholas Beckwith, III, Director  
Richard S. Davis, Director  
Kent Dixon, Director  
Frank J. Fabozzi, Director  
Kathleen F. Feldstein, Director  
James T. Flynn, Director  
Henry Gabbay, Director  
Jerrold B. Harris, Director  
R. Glenn Hubbard, Director  
W. Carl Kester, Director  
Robert S. Salomon, Jr., Director  
Donald C. Burke, Company President and Chief Executive Officer  
Anne F. Ackerley, Vice President  
Neal J. Andrews, Chief Financial Officer  
Jay M. Fife, Treasurer  
Brian P. Kindelan, Chief Compliance Officer of the Fund  
Howard B. Surloff, Secretary

### **Custodian**

The Bank of New York Mellon  
New York, NY 10286

### **Transfer Agent**

BNY Mellon Shareowner Services  
Jersey City, NJ 07310

### **Accounting Agent**

State Street Bank and Trust Company  
Princeton, NJ 08540

### **Independent Registered Public Accounting Firm**

Deloitte & Touche LLP  
Princeton, NJ 08540

### **Legal Counsel**

Skadden, Arps, Slate Meagher & Flom LLP  
New York, NY 10036

Effective January 1, 2009, Robert S. Salomon, Jr. retired as Director of the Fund.  
The Board of Directors wishes Mr. Salomon well in his retirement.



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## Additional Information

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### Proxy Results

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The Annual Meeting of Shareholders was held on September 12, 2008 for shareholders of record on July 14, 2008, to elect director nominees of BlackRock Apex Municipal Fund, Inc.:

		Votes For	Votes Withheld
Approved the Class I Directors as follows:	G. Nicholas Beckwith, III	17,000,316	679,511
	Kent Dixon	16,980,892	698,935
	R. Glenn Hubbard	16,982,781	697,046
	W. Carl Kester	16,986,516	693,311
	Robert S. Salomon, Jr.	16,973,941	705,886

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### Availability of Quarterly Schedule of Investments

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The Fund files its complete schedule of portfolio holdings with the SEC for the first and third quarters of each fiscal year on Form N-Q. The Fund's Forms N-Q are available on the SEC's website at <http://www.sec.gov> and may also be reviewed and copied at the SEC's Public Reference Room in Washington, DC. Information on the operation of the Public Reference Room may be obtained by calling (800) SEC-0330. The Fund's Forms N-Q may also be obtained upon request and without charge by calling (800) 441-7762.

### Electronic Delivery

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Electronic copies of most financial reports are available on the Fund's website or shareholders can sign up for e-mail notifications of quarterly statements, annual and semi-annual reports by enrolling in the Fund's electronic delivery program.

### Shareholders Who Hold Accounts with Investment Advisors, Banks or Brokerages:

Please contact your financial advisor to enroll. Please note that not all investment advisors, banks or brokerages may offer this service.

Additional Information (concluded)

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**General Information**

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The Fund will mail only one copy of shareholder documents, including annual and semi-annual reports and proxy statements, to shareholders with multiple accounts at the same address. This practice is commonly called “householding” and it is intended to reduce expenses and eliminate duplicate mailings of shareholder documents. Mailings of your shareholder documents may be householded indefinitely unless you instruct us otherwise. If you do not want the mailing of these documents to be combined with those for other members of your household, please contact the Fund at (800) 441-7762.

Quarterly performance, semi-annual and annual reports and other information regarding the Fund may be found on BlackRock’s website, which can be accessed at <http://www.blackrock.com>. This reference to BlackRock’s website is intended to allow investors public access to information regarding the Fund and does not, and is not intended to, incorporate BlackRock’s website into this report.

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**BlackRock Privacy Principles**

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BlackRock is committed to maintaining the privacy of its current and former fund investors and individual clients (collectively, “Clients”) and to safeguarding their non-public personal information. The following information is provided to help you understand what personal information BlackRock collects, how we protect that information and why in certain cases we share such information with select parties.

If you are located in a jurisdiction where specific laws, rules or regulations require BlackRock to provide you with additional or different privacy-related rights beyond what is set forth below, then BlackRock will comply with those specific laws, rules or regulations.

BlackRock obtains or verifies personal non-public information from and about you from different sources, including the following: (i) information we receive from you or, if applicable, your financial intermediary, on applications, forms or other documents; (ii) information about your transactions with us, our affiliates, or others; (iii) information we receive from a consumer reporting agency; and (iv) from visits to our websites.

BlackRock does not sell or disclose to non-affiliated third parties any non-public personal information about its Clients, except as permitted by law or as is necessary to respond to regulatory requests or to service Client accounts. These non-affiliated third parties are required to protect the confidentiality and security of this information and to use it only for its intended purpose.

We may share information with our affiliates to service your account or to provide you with information about other BlackRock products or services that may be of interest to you. In addition, BlackRock restricts access to non-public personal information about its Clients to those BlackRock employees with a legitimate business need for the information. BlackRock maintains physical, electronic and procedural safeguards that are designed to protect the non-public personal information of its Clients, including procedures relating to the proper storage and disposal of such information.

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This report is transmitted to shareholders only. It is not a prospectus. Past performance results shown in this report should not be considered a representation of future performance. Statements and other information herein are as dated and are subject to change.

A description of the policies and procedures that the Fund uses to determine how to vote proxies relating to portfolio securities is available (1) without charge, upon request, by calling toll-free (800) 441-7762; (2) at [www.blackrock.com](http://www.blackrock.com); and (3) on the Securities and Exchange Commission's website at <http://www.sec.gov>. Information about how the Fund voted proxies relating to securities held in the Fund's portfolio during the most recent 12-month period ended June 30 is available upon request and without charge (1) at [www.blackrock.com](http://www.blackrock.com) or by calling (800) 441-7762 and (2) on the Securities and Exchange Commission's website at <http://www.sec.gov>.

BlackRock Apex Municipal Fund, Inc.  
100 Bellevue Parkway  
Wilmington, DE 19809

#10955-SAR-12/08

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- Item 2 – Code of Ethics – Not Applicable to this semi-annual report
- Item 3 – Audit Committee Financial Expert – Not Applicable to this semi-annual report
- Item 4 – Principal Accountant Fees and Services – Not Applicable to this semi-annual report
- Item 5 – Audit Committee of Listed Registrants – Not Applicable to this semi-annual report
- Item 6 – Investments  
(a) The registrant’s Schedule of Investments is included as part of the Report to Stockholders filed under Item 1 of this form  
(b) Not Applicable due to no such divestments during the semi-annual period covered since the previous Form N-CSR filing.
- Item 7 – Disclosure of Proxy Voting Policies and Procedures for Closed-End Management Investment Companies – Not Applicable to this semi-annual report
- Item 8 – Portfolio Managers of Closed-End Management Investment Companies – Not Applicable to this semi-annual report
- Item 9 – Purchases of Equity Securities by Closed-End Management Investment Company and Affiliated Purchasers – Not Applicable
- Item 10 – Submission of Matters to a Vote of Security Holders – The registrant’s Nominating and Governance Committee will consider nominees to the board of directors recommended by shareholders when a vacancy becomes available. Shareholders who wish to recommend a nominee should send nominations that include biographical information and set forth the qualifications of the proposed nominee to the registrant’s Secretary. There have been no material changes to these procedures.
- Item 11 – Controls and Procedures
- 11(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.
- 11(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 second fiscal quarter of the period covered by this report that have materially affected, or are reasonably likely to materially affect, the registrant’s internal control over financial reporting.
- Item 12 – Exhibits attached hereto
- 12(a)(1) – Code of Ethics – Not Applicable to this semi-annual report
- 12(a)(2) – Certifications – Attached hereto
- 12(a)(3) – Not Applicable
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12(b) – 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/ Donald C. Burke  
Donald C. Burke  
Chief Executive Officer of  
BlackRock Apex Municipal Fund, Inc.

Date: February 23, 2009

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/ Donald C. Burke  
Donald C. Burke  
Chief Executive Officer (principal executive officer) of  
BlackRock Apex Municipal Fund, Inc.

Date: February 23, 2009

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

Date: February 23, 2009

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