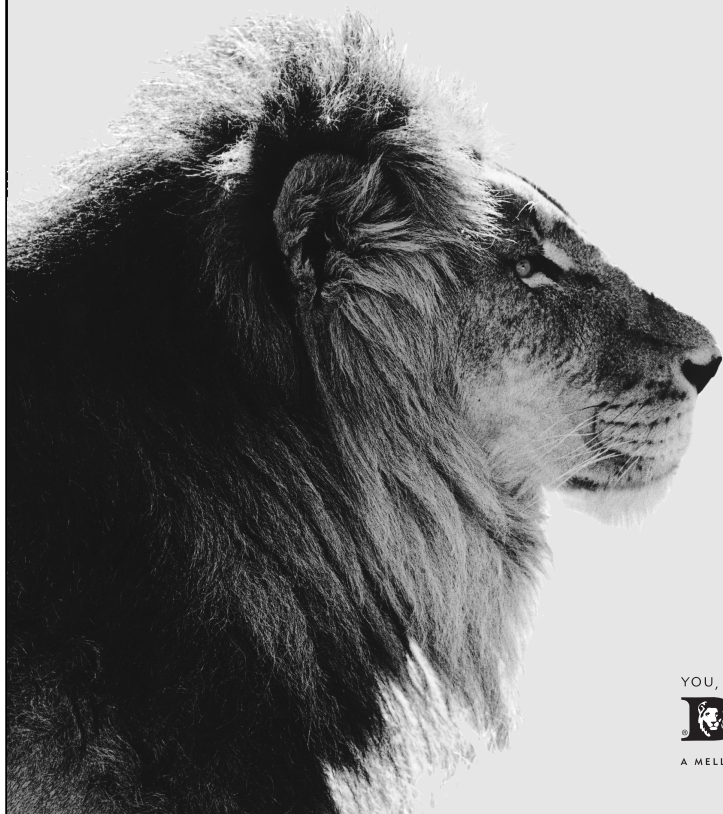


Dreyfus California Tax Exempt Bond Fund, Inc.

ANNUAL REPORT May 31, 2004



YOU, YOUR ADVISOR AND

Dreyfus

A MELLON FINANCIAL COMPANY™

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|---|
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LETTER FROM THE CHAIRMAN

Dear Shareholder:

This annual report for Dreyfus California Tax Exempt Bond Fund, Inc. covers the 12-month period from June 1, 2003, through May 31, 2004. Inside, you'll find valuable information about how the fund was managed during the reporting period, including a discussion with the fund's portfolio manager, Joseph Darcy.

Positive economic data continued to accumulate during the reporting period, as consumers, flush with extra cash from their 2003 federal tax refunds and mortgage refinancings, continued to spend. Corporations have become more willing to hire new workers and invest in new projects and equipment. In addition, many states and municipalities have reported an increase in tax revenues, helping to relieve some of the fiscal pressures that arose during the economic downturn. As the economy has gained strength, fixed-income investors apparently have grown more concerned that long-dormant inflationary pressures could resurface, and municipal bond prices recently have become more volatile.

Despite fixed-income investors' current concerns, we believe that history confirms that bonds represent an important component of most investors' long-term investment portfolios. As always, we encourage you to speak regularly with your financial advisor, who may be in the best position to suggest ways to position your portfolio for the opportunities and challenges of today's financial markets.

Thank you for your continued confidence and support.

Sincerely,

Stephen E. Canter
Chairman and Chief Executive Officer
The Dreyfus Corporation
June 15, 2004



DISCUSSION OF FUND PERFORMANCE

Joseph Darcy, Senior Portfolio Manager

How did Dreyfus California Tax Exempt Bond Fund, Inc. perform relative to its benchmark?

For the 12-month period ended May 31, 2004, the fund achieved a total return of -1.16% .¹ In comparison, the Lehman Brothers Municipal Bond Index (the “Index”), the fund’s benchmark, achieved a total return of -0.03% for the same period.² In addition, the fund is reported in the Lipper California Municipal Debt Funds category. The average total return for all funds reported in the Lipper category was -1.06% .³

Despite heightened market volatility stemming from California’s fiscal crisis and fears of higher interest rates, the state’s municipal bond prices ended the reporting period only modestly lower than where they began. The fund produced a lower return than the Lipper category average, primarily because of the fund’s focus on credit quality and defensive positioning which prevented the fund from participating in the market rally in late 2003. The fund produced a lower return than that of its benchmark, primarily because the Index contains bonds from many states, not just California, and does not reflect fees and other expenses.

What is the fund’s investment approach?

The fund seeks as high a level of current income exempt from federal and California state income taxes as is consistent with the preservation of capital. To pursue this goal, the fund normally invests substantially all of its assets in municipal bonds that provide income exempt from federal and California state personal income taxes. The fund will invest at least 80% of its assets in investment-grade municipal bonds or the unrated equivalent as determined by Dreyfus. The fund may invest up to 20% of its assets in municipal bonds rated below investment grade (“high yield” or “junk” bonds) or the unrated equivalent as determined by Dreyfus. The dollar-weighted average maturity of the fund’s portfolio normally exceeds 10 years, but the fund’s average portfolio maturity is not restricted.

The portfolio manager may buy and sell bonds based on credit quality, market outlook and yield potential. In selecting municipal bonds for investment, the portfolio manager may assess the current interest-rate environment and the municipal bond's potential volatility in different rate environments. The portfolio manager focuses on bonds with the potential to offer attractive current income, typically looking for bonds that can provide consistently attractive current yields or that are trading at competitive market prices. A portion of the fund's assets may be allocated to "discount" bonds, which are bonds that sell at a price below their face value, or to "premium" bonds, which are bonds that sell at a price above their face value. The fund's allocation either to discount bonds or to premium bonds will change along with our changing views of the current interest-rate and market environment. The portfolio manager also may look to select bonds that are most likely to obtain attractive prices when sold.

What other factors influenced the fund's performance?

When the reporting period began, investors were anticipating further interest rate reductions from the Federal Reserve Board (the "Fed") in its ongoing attempts to stimulate stronger economic growth. Indeed, the Fed reduced short-term interest rates in late June 2003 to 1%, a 45-year low, and municipal bonds rallied. However, those gains were erased during the summer of 2003, when evidence of stronger than expected economic growth sparked a sharp market decline. In addition, political turmoil in California intensified, culminating in the recall of the state's governor in October. At the time, California's bonds fell sharply, causing them to trade at yield levels well above historical norms when compared to bonds of other states.

Although the market subsequently remained volatile, municipal bond prices gradually recovered during the fall of 2003, supported by the Fed's assurances that it could be patient before raising short-term interest rates. In March 2004, investors' fiscal concerns eased when voters approved a borrowing plan to address the state's more immediate budgetary problems, and yield differences between bonds issued by

California and other states moved closer to historical norms. However, reports of a stronger U.S. labor market and other potential inflationary pressures led to a steep market decline in the spring of 2004, and California bonds generally ended the reporting period at lower price levels than where they began.

When purchasing new securities, we generally favored bonds rated “single-A” or higher from local issuers, including school districts, as well as water and sewer utilities and other revenue-producing, essential-services facilities. Because yield differences between high-quality and “triple-B” bonds were narrower than historical norms for much of the reporting period, it made little sense to us to incur the additional risks of these lower-quality securities, including California’s unsecured general obligation debt.

What is the fund’s current strategy?

The borrowing plan recently approved by California voters calls for issuance of a high volume of tax-exempt bonds, which could put upward pressure on yields and downward pressure on prices. In addition, we remain concerned about the potential effects of higher interest rates. Accordingly, we have attempted to manage risks more effectively by diversifying the fund’s holdings more broadly among bonds of various maturities, and we have gradually reduced the fund’s average duration, which is designed to give the fund the flexibility we need to capture favorable investment opportunities as they become available.

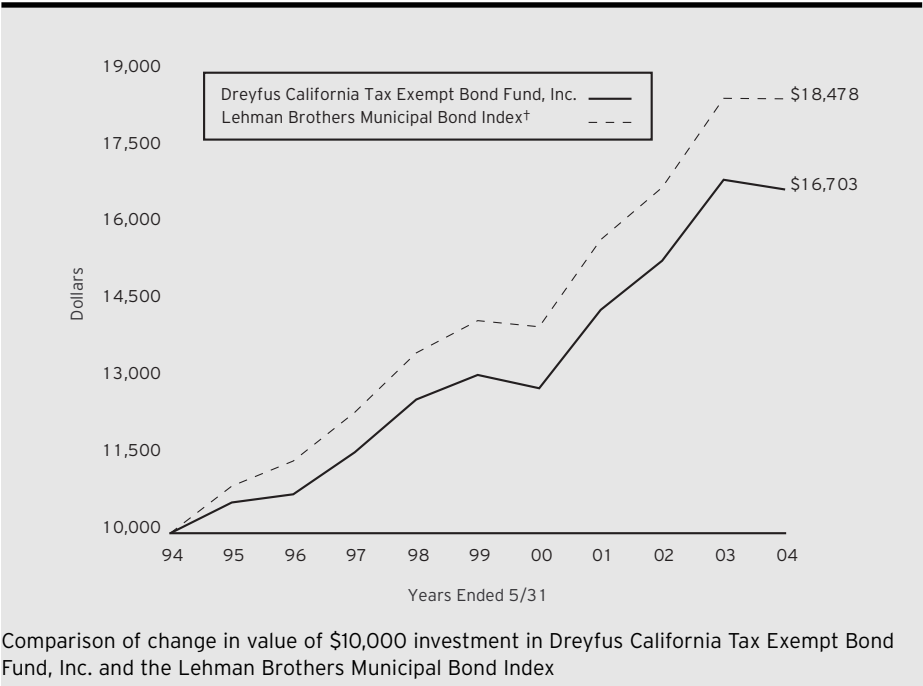
June 15, 2004

¹ Total return includes reinvestment of dividends and any capital gains paid. Past performance is no guarantee of future results. Share price, yield and investment return fluctuate such that upon redemption, fund shares may be worth more or less than their original cost. Income may be subject to state and local taxes for non-California residents, and some income may be subject to the federal alternative minimum tax (AMT) for certain investors. Capital gains, if any, are fully taxable.

² SOURCE: LIPPER INC. — Reflects reinvestment of dividends and, where applicable, capital gain distributions. The Lehman Brothers Municipal Bond Index is a widely accepted, unmanaged total return performance benchmark for the long-term, investment-grade, tax-exempt bond market. Index returns do not reflect fees and expenses associated with operating a mutual fund.

³ Source: Lipper Inc.

FUND PERFORMANCE



| Average Annual Total Returns as of 5/31/04 | | | |
|--|---------|---------|----------|
| | 1 Year | 5 Years | 10 Years |
| Fund | (1.16)% | 5.00% | 5.26% |

† Source: Lipper Inc.

Past performance is not predictive of future performance. The fund's performance shown in the graph and table does not reflect the deduction of taxes that a shareholder would pay on fund distributions or the redemption of fund shares. The above graph compares a \$10,000 investment made in Dreyfus California Tax Exempt Bond Fund, Inc. on 5/31/94 to a \$10,000 investment made in the Lehman Brothers Municipal Bond Index (the "Index") on that date. All dividends and capital gain distributions are reinvested.

The fund invests primarily in California municipal securities and its performance shown in the line graph above takes into account fees and expenses. The Index is not limited to investments principally in California municipal obligations and does not take into account charges, fees and other expenses. The Index, unlike the fund, is an unmanaged total return performance benchmark for the long-term, investment-grade, geographically unrestricted tax-exempt bond market, calculated by using municipal bonds selected to be representative of the municipal market overall. These factors can contribute to the Index potentially outperforming or underperforming the fund. Further information relating to fund performance, including expense reimbursements, if applicable, is contained in the Financial Highlights section of the prospectus and elsewhere in this report.

STATEMENT OF INVESTMENTS

May 31, 2004

| Long-Term Municipal Investments—94.1% | Principal Amount (\$) | Value (\$) |
|---|---------------------------|------------|
| California—84.2% | | |
| Anaheim Public Finance Authority, Tax Allocation Revenue 6.45%, 12/28/2018 (Insured; MBIA) | 20,000,000 | 22,595,200 |
| California, Economic Recovery: | | |
| 5.25%, 7/1/2013 | 30,000,000 | 32,989,800 |
| 5%, 7/1/2016 | 25,000,000 | 25,973,750 |
| California Department of Veteran Affairs, Home Purchase Revenue 5.50%, 12/1/2019 | 15,000,000 | 15,388,050 |
| California Department of Water Resources, Power Supply Revenue: | | |
| 3.50%, 5/1/2007 (Insured; MBIA) | 10,160,000 | 10,426,802 |
| 5.875%, 5/1/2016 | 10,000,000 | 10,963,900 |
| 5.375%, 5/1/2018 (Insured; AMBAC) | 28,085,000 | 29,841,998 |
| California Health Facilities Financing Authority, Revenue: | | |
| (Cedars-Sinai Medical Center) 6.125%, 12/1/2030 | 27,695,000 | 29,258,106 |
| Health Facility (Adventist Health System/West) 5%, 3/1/2033 | 6,000,000 | 5,499,900 |
| (Sutter Health) 5.35%, 8/15/2028 (Insured; MBIA) | 3,780,000 | 3,840,934 |
| California Housing Finance Agency: MFHR | | |
| 6.30%, 8/1/2026 (Insured; AMBAC) | 7,130,000 | 7,332,492 |
| Single Family Mortgage: | | |
| 6.25%, 8/1/2014 (Insured; AMBAC) | 735,000 | 757,403 |
| 6.30%, 8/1/2024 | 1,805,000 | 1,806,643 |
| 6.45%, 8/1/2025 | 2,100,000 | 2,114,826 |
| California Pollution Control Financing Authority, PCR: | | |
| 10.452%, 6/1/2014 | 24,165,000 ^{a,b} | 30,894,228 |
| (Southern California Edison Co.): | | |
| 2%, 3/1/2006 | 30,000,000 | 29,523,900 |
| 6.40%, 12/1/2024 | 12,600,000 | 12,756,618 |
| California Public Works Board, LR: | | |
| (Department of Corrections, Calipatria State Prison, Imperial County) 6.50%, 9/1/2017 (Insured; MBIA) | 13,000,000 | 15,465,970 |
| (Department of General Services- Capital East End Complex): | | |
| 5%, 12/1/2012 (Insured; AMBAC) | 7,275,000 | 7,890,829 |
| 5.25%, 12/1/2019 (Insured; AMBAC) | 10,000,000 | 10,442,600 |

| Long-Term Municipal Investments (continued) | Principal Amount (\$) | Value (\$) |
|---|------------------------|------------|
| California (continued) | | |
| California Public Works Board, LR (continued): | | |
| (Various University of California Projects): | | |
| 5.50%, 6/1/2014 | 5,000,000 | 5,485,950 |
| 6.375%, 10/1/2019 (Prerefunded 10/1/2004) | 7,775,000 ^c | 8,064,230 |
| California State University, Fresno Association Inc., | | |
| Auxiliary Organization Event Center Revenue: | | |
| 6%, 7/1/2022 | 3,500,000 | 3,562,055 |
| 6%, 7/1/2026 | 2,500,000 | 2,515,800 |
| 6%, 7/1/2031 | 5,250,000 | 5,211,412 |
| California Statewide Communities | | |
| Development Authority: | | |
| COP: | | |
| (Saint Joseph Health System Group) | | |
| 6.50%, 7/1/2015 (Prerefunded 7/1/2004) | 7,000,000 ^c | 7,173,320 |
| (The Internext Group) | | |
| 5.375%, 4/1/2030 | 20,000,000 | 18,208,800 |
| Revenue: | | |
| (Kaiser Permanente): | | |
| 2.30%, 5/1/2007 | 10,000,000 | 9,757,300 |
| 5.50%, 11/1/2032 | 13,500,000 | 13,342,455 |
| (Sutter Health) | | |
| 5.50%, 8/15/2028 | 14,000,000 | 14,187,880 |
| (The California Endowment): | | |
| 5%, 7/1/2028 | 15,360,000 | 15,284,736 |
| 5%, 7/1/2033 | 16,710,000 | 16,595,202 |
| 5%, 7/1/2036 | 14,355,000 | 14,207,143 |
| Central California Joint Powers | | |
| Health Financing Authority, COP | | |
| (Community Hospitals of Central California) | | |
| 5.75%, 2/1/2031 | 15,000,000 | 14,807,250 |
| Community Facilities District Number 2003-1 | | |
| of the County of Orange (Ladera Ranch) | | |
| Series A of 2004 Special Tax Bonds: | | |
| 5.60%, 8/15/2028 | 3,250,000 | 3,175,998 |
| 5.625%, 8/15/2034 | 3,500,000 | 3,429,930 |
| Delano, COP (Delano Regional Medical Center) | | |
| 5.25%, 1/1/2018 | 10,000,000 | 9,410,900 |
| Fontana, Special Tax | | |
| 5.25%, 9/1/2017 (Insured; MBIA) | 10,000,000 | 10,548,900 |
| Fontana Public Financing Authority, | | |
| Tax Allocation Revenue | | |
| (North Fontana Redevelopment Project) | | |
| 5.50%, 9/1/2032 (Insured; AMBAC) | 10,000,000 | 10,323,800 |

| Long-Term Municipal Investments (continued) | Principal Amount (\$) | Value (\$) |
|---|--------------------------|------------|
| California (continued) | | |
| Fremont Union High School District 5.25%, 9/1/2025 (Insured; FGIC) | 11,295,000 | 11,477,640 |
| Fresno, Sewer Revenue 5.25%, 9/1/2019 (Insured; AMBAC) | 9,400,000 | 10,155,290 |
| Golden State Tobacco Securitization Corp., Enhanced Tobacco Settlement Asset-Backed Bonds: | | |
| 5%, 6/1/2043 | 10,000,000 | 9,483,900 |
| 5.50%, 6/1/2043 | 5,000,000 | 4,855,550 |
| Los Angeles, GO 5%, 9/1/2016 (Insured; MBIA) | 11,670,000 | 12,292,244 |
| Los Angeles Department of Water and Power, Revenue: | | |
| Power System: | | |
| 5%, 7/1/2018 (Insured; MBIA) | 10,000,000 | 10,342,900 |
| 5.25%, 7/1/2019 (Insured; FSA) | 45,540,000 | 47,577,915 |
| Waterworks | | |
| 6.375%, 7/1/2034 (Insured; MBIA) | 9,000,000 | 9,218,610 |
| Los Angeles Harbor Department, Revenue 6%, 8/1/2012 | 8,900,000 | 9,543,025 |
| Los Angeles Unified School District 5.75%, 7/1/2017 (Insured; MBIA) | 10,135,000 | 11,534,035 |
| Merced Union High School District: | | |
| Zero Coupon, 8/1/2023 (Insured; FGIC) | 2,500,000 | 885,775 |
| Zero Coupon, 8/1/2024 (Insured; FGIC) | 2,555,000 | 845,884 |
| Northern California Power Agency, Revenue (Hydroelectric Project Number 1): | | |
| 7%, 7/1/2016 (Insured; AMBAC) (Prerefunded 1/1/2016) | 670,000 ^c | 841,091 |
| 5.125%, 7/1/2023 (Insured; MBIA) | 3,500,000 | 3,545,465 |
| 7.50%, 7/1/2023 (Insured; AMBAC) (Prerefunded 7/1/2021) | 375,000 ^c | 491,464 |
| Oakland Unified School District 5.25%, 8/1/2024 (Insured; FGIC) | 17,275,000 | 17,682,863 |
| Port of Oakland, Revenue Special Facilities (Mitsui O.S.K. Lines Ltd.) | | |
| 6.80%, 1/1/2019 (LOC; Industrial Bank of Japan) | 1,385,000 | 1,388,102 |
| Public Utilities Commission of the City and County of San Francisco, Clean Water Revenue: | | |
| 5%, 10/1/2012 (Insured; MBIA) | 23,095,000 | 25,136,829 |
| 5%, 10/1/2013 (Insured; MBIA) | 22,195,000 | 24,013,436 |
| Rancho Mirage Joint Powers Financing Authority, Revenue (Eisenhower Medical Center) | | |
| 5.625%, 7/1/2029 | 10,000,000 | 9,959,500 |

STATEMENT OF INVESTMENTS (continued)

| Long-Term Municipal Investments (continued) | Principal Amount (\$) | Value (\$) |
|--|-------------------------|--------------------|
| California (continued) | | |
| Sacramento County, Airport System Revenue 6%, 7/1/2017 (Insured; MBIA) | 5,850,000 | 6,299,924 |
| Sacramento County Sanitation District Financing Authority, Revenue 5%, 12/1/2027 | 19,330,000 | 19,184,638 |
| Sacramento Municipal Utility District, Electric Revenue: 6.50%, 9/1/2013 (Insured; MBIA) | 6,930,000 | 8,174,905 |
| 5%, 11/15/2014 (Insured; MBIA) | 5,000,000 | 5,380,450 |
| 5.20%, 7/1/2017 (Insured; MBIA) | 300,000 | 315,552 |
| San Bernardino County, COP (Capital Facilities Project) 6.875%, 8/1/2024 | 5,000,000 | 6,209,350 |
| San Juan Unified School District: Zero Coupon, 8/1/2023 (Insured; FSA) | 10,030,000 | 3,553,729 |
| Zero Coupon, 8/1/2024 (Insured; FSA) | 10,655,000 | 3,527,551 |
| Southeast Resource Recovery Facility Authority, LR: 5.25%, 12/1/2016 (Insured; AMBAC) | 11,715,000 | 12,486,550 |
| 5.25%, 12/1/2017 (Insured; AMBAC) | 6,475,000 | 6,855,018 |
| 5.25%, 12/1/2018 (Insured; AMBAC) | 7,585,000 | 8,012,111 |
| University of California, Revenue (Multi Purpose) 5.25%, 9/1/2027 (Insured; MBIA) | 31,475,000 | 31,848,608 |
| West Basin Municipal Water District, Revenue, COP: 5.25%, 8/1/2014 (Insured; MBIA) | 5,000,000 | 5,405,900 |
| 5.25%, 8/1/2015 (Insured; MBIA) | 5,000,000 | 5,358,650 |
| Whittier Health Facility, Revenue (Presbyterian Intercommunity Hospital) 5.75%, 6/1/2031 | 10,090,000 | 10,262,640 |
| U.S. Related-9.9% | | |
| Commonwealth of Puerto Rico, Public Improvement 5.50%, 7/1/2016 (Insured; MBIA) | 11,830,000 | 13,282,014 |
| Commonwealth of Puerto Rico Infrastructure Financing Authority, Special Tax Revenue: 5.50%, 10/1/2032 | 10,000,000 | 10,507,000 |
| 5.50%, 10/1/2040 | 30,000,000 | 31,521,000 |
| Puerto Rico Housing Finance Authority (Capital Fund Program) 5%, 12/1/2015 | 11,615,000 | 12,276,590 |
| Puerto Rico Public Buildings Authority, Government Facilities Revenue 5%, 7/1/2012 | 29,850,000 ^d | 32,130,242 |
| Total Long-Term Municipal Investments (cost \$929,233,038) | | 944,920,950 |

| Short-Term Municipal Investments–3.7% | Principal Amount (\$) | Value (\$) |
|---|--|----------------------------|
| ABAG Finance Authority for Nonprofit Corps., Revenue, VRDN (Jewish Community Center Project) 1.08% (LOC; Bank of New York and Allied Irish Bank) | 3,775,000 ^e | 3,775,000 |
| California, VRDN 1.07% (LOC; JPMorgan Chase Bank and Westdeutsche Landesbank) | 4,500,000 ^e | 4,500,000 |
| California Health Facilities Financing Authority, HR, VRDN (Adventist Health System) 1.07% (LOC; Kredietbank N. V.–KBC Bank) | 5,200,000 ^e | 5,200,000 |
| California Pollution Control Financing Authority, PCR, VRDN (Pacific Gas and Electric) 1.07% (LOC; Banque Nationale de Paris) | 6,500,000 ^e | 6,500,000 |
| California Statewide Communities Development Authority, Revenue, COP, VRDN (Sutter Health Obligation Group) 1.07% (Insured; AMBAC) | 1,000,000 ^e | 1,000,000 |
| Irvine Improvement Bond Act of 1915, VRDN: Assesment District Number 87-8 1.07% (LOC; Kredietbank N. V.–KBC Bank) Assesment District Number 94-13 (Oak Creek Project) 1.07% (LOC; Canadian Bank of Commerce) | 6,500,000 ^e 3,357,000 ^e | 6,500,000 3,357,000 |
| Los Angeles Department of Water and Power, Revenue, VRDN 1.10% | 3,015,000 ^e | 3,015,000 |
| Newport Beach, Revenue, VRDN (Hoag Memorial Hospital) 1.08% | 3,500,000 ^e | 3,500,000 |
| Total Short-Term Municipal Investments (cost \$37,347,000) | | 37,347,000 |
| Total Investments (cost \$966,580,038) | 97.8% | 982,267,950 |
| Cash and Receivables (Net) | 2.2% | 21,985,336 |
| Net Assets | 100.0% | 1,004,253,286 |

Summary of Abbreviations

| | | | |
|--------------|---|-------------|--|
| AMBAC | American Municipal Bond Assurance Corporation | LOC | Letter of Credit |
| COP | Certificate of Participation | LR | Lease Revenue |
| FGIC | Financial Guaranty Insurance Company | MBIA | Municipal Bond Investors Assurance Insurance Corporation |
| FSA | Financial Security Assurance | MFHR | Multi-Family Housing Revenue |
| GO | General Obligation | PCR | Pollution Control Revenue |
| HR | Hospital Revenue | VRDN | Variable Rate Demand Notes |

Summary of Combined Ratings (Unaudited)

| Fitch | or | Moody's | or | Standard & Poor's | Value (%) |
|------------------------|----|------------------------|----|------------------------|--------------|
| AAA | | Aaa | | AAA | 62.7 |
| AA | | Aa | | AA | 12.5 |
| A | | A | | AA | 10.5 |
| BBB | | Baa | | BBB | 9.8 |
| F1 | | MIG1/P1 | | SP1/A1 | 3.8 |
| Not Rated ^f | | Not Rated ^f | | Not Rated ^f | .7 |
| | | | | | 100.0 |

^a Security exempt from registration under Rule 144A of the Securities Act of 1933. This security may be resold in transactions exempt from registration, normally to qualified institutional buyers. At May 31, 2004, this security amounted to \$30,894,228 or 3.1% of net assets.

^b Inverse floater security—the interest rate is subject to change periodically.

^c Bonds which are prerefunded are collateralized by U.S. Government securities which are held in escrow and are used to pay principal and interest on the municipal issue and to retire the bonds in full at the earliest refunding date.

^d Purchased on a delayed delivery basis.

^e Securities payable on demand. Variable interest rate—subject to periodic change.

^f Securities which, while not rated by Fitch, Moody's and Standard & Poor's, have been determined by the Manager to be of comparable quality to those rated securities in which the fund may invest.

See notes to the financial statements.

STATEMENT OF ASSETS AND LIABILITIES

May 31, 2004

| | Cost | Value |
|---|-------------|----------------------|
| Assets (\$): | | |
| Investments in securities—See Statement of Investments | 966,580,038 | 982,267,950 |
| Receivable for investment securities sold | | 59,840,935 |
| Interest receivable | | 14,942,106 |
| Receivable for shares of Common Stock subscribed | | 10,275 |
| Prepaid expenses | | 29,252 |
| | | 1,057,090,518 |
| Liabilities (\$): | | |
| Due to The Dreyfus Corporation and affiliates—Note 3(a) | | 548,827 |
| Payable for investment securities purchased | | 51,231,141 |
| Payable for shares of Common Stock redeemed | | 528,191 |
| Cash overdraft due to Custodian | | 425,800 |
| Accrued expenses | | 103,273 |
| | | 52,837,232 |
| Net Assets (\$) | | 1,004,253,286 |
| Composition of Net Assets (\$): | | |
| Paid-in capital | | 983,722,192 |
| Accumulated undistributed investment income—net | | 316,230 |
| Accumulated net realized gain (loss) on investments | | 4,526,952 |
| Accumulated net unrealized appreciation (depreciation) on investments | | 15,687,912 |
| Net Assets (\$) | | 1,004,253,286 |
| Shares Outstanding | | |
| (300 million shares of \$.001 par value Common Stock authorized) | | 69,786,351 |
| Net Asset Value , offering and redemption price per share—Note 3(d) (\$) | | 14.39 |

See notes to financial statements.

STATEMENT OF OPERATIONS

Year Ended May 31, 2004

| | |
|--|---------------------|
| Investment Income (\$): | |
| Interest Income | 49,144,801 |
| Expenses: | |
| Management fee—Note 3(a) | 6,369,536 |
| Shareholder servicing costs—Note 3(b) | 817,751 |
| Custodian fees | 82,844 |
| Professional fees | 63,530 |
| Directors' fees and expenses—Note 3(c) | 56,954 |
| Registration fees | 31,623 |
| Loan commitment fees—Note 2 | 9,874 |
| Miscellaneous | 33,431 |
| Total Expenses | 7,465,543 |
| Investment Income—Net | 41,679,258 |
| Realized and Unrealized Gain (Loss) on Investments—Note 4 (\$): | |
| Net realized gain (loss) on investments | 8,203,472 |
| Net unrealized appreciation (depreciation) on investments | (63,000,098) |
| Net Realized and Unrealized Gain (Loss) on Investments | (54,796,626) |
| Net (Decrease) in Net Assets Resulting from Operations | (13,117,368) |

See notes to financial statements.

STATEMENT OF CHANGES IN NET ASSETS

| | Year Ended May 31, | |
|--|----------------------|----------------------|
| | 2004 | 2003 |
| Operations (\$): | | |
| Investment income-net | 41,679,258 | 47,511,719 |
| Net realized gain (loss) on investments | 8,203,472 | 11,598,844 |
| Net unrealized appreciation (depreciation) on investments | (63,000,098) | 51,343,818 |
| Net Increase (Decrease) in Net Assets Resulting from Operations | (13,117,368) | 110,454,381 |
| Dividends to Shareholders from (\$): | | |
| Investment income-net | (41,050,288) | (47,254,638) |
| Net realized gain on investments | (10,276,672) | (11,261,160) |
| Total Dividends | (51,326,960) | (58,515,798) |
| Capital Stock Transactions (\$): | | |
| Net proceeds from shares sold | 155,077,435 | 232,655,581 |
| Dividends reinvested | 34,795,373 | 39,551,645 |
| Cost of shares redeemed | (261,572,844) | (283,499,067) |
| Increase (Decrease) in Net Assets from Capital Stock Transactions | (71,700,036) | (11,291,841) |
| Total Increase (Decrease) in Net Assets | (136,144,364) | 40,646,742 |
| Net Assets (\$): | | |
| Beginning of Period | 1,140,397,650 | 1,099,750,908 |
| End of Period | 1,004,253,286 | 1,140,397,650 |
| Undistributed investment income-net | 316,230 | 124,601 |
| Capital Share Transactions (Shares): | | |
| Shares sold | 10,532,214 | 15,706,623 |
| Shares issued for dividends reinvested | 2,362,002 | 2,665,098 |
| Shares redeemed | (17,723,340) | (19,100,849) |
| Net Increase (Decrease) in Shares Outstanding | (4,829,124) | (729,128) |

See notes to financial statements.

FINANCIAL HIGHLIGHTS

The following table describes the performance for the fiscal periods indicated. Total return shows how much your investment in the fund would have increased (or decreased) during each period, assuming you had reinvested all dividends and distributions. These figures have been derived from the fund's financial statements.

| | Year Ended May 31, | | | | |
|--|--------------------|------------------|-------------------|--------------|---------------|
| | 2004 | 2003 | 2002 ^a | 2001 | 2000 |
| Per Share Data (\$): | | | | | |
| Net asset value, beginning of period | 15.28 | 14.60 | 14.56 | 13.65 | 14.72 |
| Investment Operations: | | | | | |
| Investment income—net | .58 ^b | .63 ^b | .67 ^b | .71 | .70 |
| Net realized and unrealized gain (loss) on investments | (.76) | .83 | .29 | .91 | (1.01) |
| Total from Investment Operations | (.18) | 1.46 | .96 | 1.62 | (.31) |
| Distributions: | | | | | |
| Dividends from investment income—net | (.57) | (.63) | (.67) | (.71) | (.71) |
| Dividends from net realized gain on investments | (.14) | (.15) | (.25) | — | (.05) |
| Total Distributions | (.71) | (.78) | (.92) | (.71) | (.76) |
| Net asset value, end of period | 14.39 | 15.28 | 14.60 | 14.56 | 13.65 |
| Total Return (%) | (1.16) | 10.30 | 6.69 | 11.98 | (2.04) |
| Ratios/Supplemental Data (%): | | | | | |
| Ratio of expenses to average net assets | .70 | .70 | .71 | .70 | .73 |
| Ratio of net investment income to average net assets | 3.93 | 4.27 | 4.54 | 4.87 | 5.03 |
| Portfolio Turnover Rate | 56.87 | 47.21 | 51.69 | 32.21 | 34.09 |
| Net Assets, end of period (\$ x 1,000) | 1,004,253 | 1,140,398 | 1,099,751 | 1,099,495 | 1,045,993 |

^a As required, effective June 1, 2001, the fund has adopted the provisions of the AICPA Audit and Accounting Guide for Investment Companies and began amortizing discount or premium on a scientific basis for debt securities on a daily basis. The effect of this change for the period ended May 31, 2002 was to increase net investment income per share and decrease net realized and unrealized gain (loss) on investments by less than \$.01 and increase the ratio of net investment income to average net assets from 4.51% to 4.54%. Per share data and ratios/supplemental data for periods prior to June 1, 2001 have not been restated to reflect this change in presentation.

^b Based on average shares outstanding at each month end.

See notes to financial statements.

NOTE 1—Significant Accounting Policies:

Dreyfus California Tax Exempt Bond Fund, Inc. (the “fund”) is registered under the Investment Company Act of 1940, as amended (the “Act”), as a non-diversified open-end management investment company. The fund’s investment objective is to provide investors with a high level of current income exempt from federal and California state income taxes, as is consistent with the preservation of capital. The Dreyfus Corporation (the “Manager” or “Dreyfus”) serves as the fund’s investment adviser. The Manager is a wholly-owned subsidiary of Mellon Financial Corporation (“Mellon Financial”). Dreyfus Service Corporation (the “Distributor”), a wholly-owned subsidiary of the Manager, is the distributor of the fund’s shares, which are sold to the public without a sales charge.

The fund’s financial statements are prepared in accordance with U.S. generally accepted accounting principles, which may require the use of management estimates and assumptions. Actual results could differ from those estimates.

The fund enters into contracts that contain a variety of indemnifications. The fund’s maximum exposure under these arrangements is unknown. The fund does not anticipate recognizing any loss related to these arrangements.

(a) Portfolio valuation: Investments in securities are valued each business day by an independent pricing service (the “Service”) approved by the Board of Directors. Investments for which quoted bid prices are readily available and are representative of the bid side of the market in the judgment of the Service are valued at the mean between the quoted bid prices (as obtained by the Service from dealers in such securities) and asked prices (as calculated by the Service based upon its evaluation of the market for such securities). Other investments (which constitute a majority of the portfolio securities) are carried at fair value as determined by the Service, based on methods which include consideration of: yields or prices of municipal securities of comparable quality, coupon, maturity and type; indications as to values from dealers; and general market conditions.

(b) Securities transactions and investment income: Securities transactions are recorded on a trade date basis. Realized gain and loss from securities transactions are recorded on the identified cost basis. Interest income, adjusted for amortization of discount and premium on investments, is earned from settlement date and recognized on the accrual basis. Securities purchased or sold on a when-issued or delayed-delivery basis may be settled a month or more after the trade date. Under the terms of the custody agreement, the fund received net earnings credits of \$49,976 during the period ended May 31, 2004 based on available cash balances left on deposit. Income earned under this arrangement is included in interest income.

The fund follows an investment policy of investing primarily in municipal obligations of one state. Economic changes affecting the state and certain of its public bodies and municipalities may affect the ability of issuers within the state to pay interest on, or repay principal of, municipal obligations held by the fund.

(c) Dividends to shareholders: It is the policy of the fund to declare dividends daily from investment income-net. Such dividends are paid monthly. Dividends from net realized capital gain, if any, are normally declared and paid annually, but the fund may make distributions on a more frequent basis to comply with the distribution requirements of the Internal Revenue Code of 1986, as amended (the "Code"). To the extent that net realized capital gain can be offset by capital loss carryovers, if any, it is the policy of the fund not to distribute such gain. Income and capital gain distributions are determined in accordance with incomes tax regulations, which may differ from U.S. generally accepted accounting principles.

(d) Federal income taxes: It is the policy of the fund to continue to qualify as a regulated investment company, which can distribute tax exempt dividends, by complying with the applicable provisions of the Code, and to make distributions of income and net realized capital gain sufficient to relieve it from substantially all federal income and excise taxes.

At May 31, 2004, the components of accumulated earnings on a tax basis were as follows: undistributed tax exempt income \$316,230, undistributed ordinary income \$1,523,738, undistributed capital gains \$3,003,215 and unrealized appreciation \$15,748,215.

The tax character of distributions paid to shareholders during the fiscal periods ended May 31, 2004 and May 31, 2003, were as follows: tax exempt income \$41,050,288 and \$47,254,638, ordinary income \$2,121,105 and \$1,927,910 and long term capital gain \$8,155,567 and \$9,333,250, respectively.

During the period ended May 31, 2004, as a result of permanent book to tax differences primarily due to amortization adjustments, the fund decreased accumulated undistributed investment income-net by \$437,341, increased accumulated net realized gain (loss) on investments by \$426,355 and increased paid-in capital by \$10,986. Net assets were not affected by this reclassification.

NOTE 2—Bank Line of Credit:

The fund participates with other Dreyfus-managed funds in a \$350 million redemption credit facility (the “Facility”) to be utilized for temporary or emergency purposes, including the financing of redemptions. In connection therewith, the fund has agreed to pay commitment fees on its pro rata portion of the Facility. Interest is charged to the fund based on prevailing market rates in effect at the time of borrowings. During the period ended May 31, 2004, the fund did not borrow under the Facility.

NOTE 3—Management Fee and Other Transactions with Affiliates:

(a) Pursuant to a management agreement (“Agreement”) with the Manager, the management fee is computed at the annual rate of .60 of 1% of the value of the fund’s average daily net assets and is payable monthly. The Agreement provides that if in any full fiscal year the aggregate expenses of the fund, exclusive of taxes, brokerage fees, interest on borrowings, commitment fees and extraordinary expenses,

exceed 1½% of the value of the fund's average net assets, the fund may deduct from the payments to be made to the Manager, or the Manager will bear such excess expense. During the period ended May 31, 2004, there was no expense reimbursement pursuant to the Agreement.

The components of Due to The Dreyfus Corporation and affiliates in the Statement of Assets and Liabilities consists of: management fees \$506,827 and transfer agency per account fees \$42,000.

(b) Under the Shareholder Services Plan, the fund reimburses the Distributor an amount not to exceed an annual rate of .25 of 1% of the value of the fund's average daily net assets for certain allocated expenses of providing personal services and/or maintaining shareholder accounts. The services provided may include personal services relating to shareholder accounts, such as answering shareholder inquiries regarding the fund and providing reports and other information, and services related to the maintenance of shareholder accounts. During the period ended May 31, 2004, the fund was charged \$405,777 pursuant to the Shareholder Services Plan.

The fund compensates Dreyfus Transfer, Inc., a wholly-owned subsidiary of the Manager, under a transfer agency agreement for providing personnel and facilities to perform transfer agency services for the fund. During the period ended May 31, 2004, the fund was charged \$265,000 pursuant to the transfer agency agreement.

(c) Each Board member also serves as a Board member of other funds within the Dreyfus complex. Effective October 15, 2003, annual retainer fees and attendance fees are allocated to each fund based on net assets. Prior to October 15, 2003, each director who is not an "affiliated person" as defined in the Act received from the fund an annual fee of \$4,500 and an attendance fee of \$500 per meeting for services of the fund. The Chairman of the Board received an additional 25% of such compensation and continues to do so under the new compensation structure.

(d) A .10% redemption fee is charged and retained by the fund on shares redeemed within thirty days following the date of issuance, including redemptions made through the use of the fund's exchange privilege. During the period ended May 31, 2004, redemption fees charged and retained by the fund amounted to \$48,546.

NOTE 4—Securities Transactions:

The aggregate amount of purchases and sales of investment securities, excluding short-term securities, during the period ended May 31, 2004, amounted to \$566,552,727 and \$665,095,472, respectively.

At May 31, 2004, the cost of investments for federal income tax purposes was \$966,519,735; accordingly, accumulated net unrealized appreciation on investments was \$15,748,215, consisting of \$22,568,524 gross unrealized appreciation and \$6,820,309 gross unrealized depreciation.

NOTE 5—Legal Matters:

Two class actions (which have been consolidated) have been filed against Mellon Financial and Mellon Bank, N.A., and Dreyfus and Founders Asset Management LLC (the "Investment Advisers"), and the directors of all or substantially all of the Dreyfus funds, alleging that the Investment Advisers improperly used assets of the Dreyfus funds, in the form of directed brokerage commissions and 12b-1 fees, to pay brokers to promote sales of Dreyfus funds, and that the use of fund assets to make these payments was not properly disclosed to investors. The complaints further allege that the directors breached their fiduciary duties to fund shareholders under the Investment Company Act of 1940 and at common law. The complaints seek unspecified compensatory and punitive damages, rescission of the funds' contracts with the Investment Advisers, an accounting of all fees paid, and an award of attorneys' fees and litigation expenses. Dreyfus and the Dreyfus funds believe the allegations to be totally without merit and will defend the actions vigorously.

Additional lawsuits arising out of these circumstances and presenting similar allegations and requests for relief may be filed against the defendants in the future. Neither Dreyfus nor the Dreyfus funds believe that any of the pending actions will have a material adverse effect on the Dreyfus funds or Dreyfus' ability to perform its contracts with the Dreyfus funds.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors Dreyfus California Tax Exempt Bond Fund, Inc.

We have audited the accompanying statement of assets and liabilities of Dreyfus California Tax Exempt Bond Fund, Inc., including the statement of investments, as of May 31, 2004, and the related statement of operations for the year then ended, the statement of changes in net assets for each of the two years in the period then ended, and financial highlights for each of the years indicated therein. These financial statements and financial highlights are the responsibility of the Fund's management. Our responsibility is to express an opinion on these financial statements and financial highlights based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial highlights are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements and financial highlights. Our procedures included confirmation of securities owned as of May 31, 2004 by correspondence with the custodian and others. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements and financial highlights referred to above present fairly, in all material respects, the financial position of Dreyfus California Tax Exempt Bond Fund, Inc. at May 31, 2004, the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period then ended, and the financial highlights for each of the indicated years, in conformity with U.S. generally accepted accounting principles.

Ernst & Young LLP

New York, New York
June 30, 2004

IMPORTANT TAX INFORMATION (Unaudited)

In accordance with federal tax law, the fund hereby makes the following designations regarding its fiscal year ended May 31, 2004:

- all the dividends paid from investment income-net are “exempt-interest dividends” (not subject to regular federal income tax, and for individuals who are California residents, California personal income taxes), and
- the fund hereby designates \$.1142 per share as a long-term capital gain distribution of the \$.1439 per share paid on December 5, 2003.

As required by federal tax law rules, shareholders will receive notification of their portion of the fund’s taxable ordinary dividends (if any) and capital gains distributions (if any) paid for the 2004 calendar year on Form 1099-DIV which will be mailed by January 31, 2005.

BOARD MEMBERS INFORMATION (Unaudited)

Joseph S. DiMartino (60)
Chairman of the Board (1995)

Principal Occupation During Past 5 Years:

- Corporate Director and Trustee

Other Board Memberships and Affiliations:

- The Muscular Dystrophy Association, Director
- Levcor International, Inc., an apparel fabric processor, Director
- Century Business Services, Inc., a provider of outsourcing functions for small and medium size companies, Director
- The Newark Group, a provider of a national market of paper recovery facilities, paperboard mills and paperboard converting plants, Director

No. of Portfolios for which Board Member Serves: 186

David W. Burke (68)
Board Member (1994)

Principal Occupation During Past 5 Years:

- Corporate Director and Trustee

Other Board Memberships and Affiliations:

- John F. Kennedy Library Foundation, Director
- U.S.S. Constitution Museum, Director

No. of Portfolios for which Board Member Serves: 83

Samuel Chase (72)
Board Member (1985)

Principal Occupation During Past 5 Years:

- Corporate Director and Trustee

No. of Portfolios for which Board Member Serves: 15

Gordon J. Davis (62)
Board Member (1995)

Principal Occupation During Past 5 Years:

- Partner in the law firm of LeBoeuf, Lamb, Greene & MacRae LLP
- President, Lincoln Center for Performing Arts, Inc. (2001)

Other Board Memberships and Affiliations:

- Consolidated Edison, Inc., a utility company, Director
- Phoenix Companies, Inc., a life insurance company, Director
- Board Member/Trustee for several not-for-profit groups

No. of Portfolios for which Board Member Serves: 25

Joni Evans (62)
Board Member (1983)

Principal Occupation During Past 5 Years:

- Senior Vice President of the William Morris Agency

No. of Portfolios for which Board Member Serves: 15

Arnold S. Hiatt (77)
Board Member (1983)

Principal Occupation During Past 5 Years:

- Chairman of The Stride Rite Charitable Foundation

Other Board Memberships and Affiliations:

- Isabella Stewart Gardner Museum, Trustee
- John Merck Fund, a charitable trust, Trustee
- Business for Social Responsibility, Chairman

No. of Portfolios for which Board Member Serves: 15

Burton N. Wallack (53)
Board Member (1991)

Principal Occupation During Past 5 Years:

- President and co-owner of Wallack Management Company, a real estate management company

No. of Portfolios for which Board Member Serves: 15

Once elected all Board Members serve for an indefinite term. The address of the Board Members and Officers is in c/o The Dreyfus Corporation, 200 Park Avenue, New York, New York 10166. Additional information about the Board Members is available in the fund's Statement of Additional Information which can be obtained from Dreyfus free of charge by calling this toll free number: 1-800-554-4611.

OFFICERS OF THE FUND (Unaudited)

STEPHEN E. CANTER, President since March 2000.

Chairman of the Board, Chief Executive Officer and Chief Operating Officer of the Manager, and an officer of 97 investment companies (comprised of 190 portfolios) managed by the Manager. Mr. Canter also is a Board member and, where applicable, an Executive Committee Member of the other investment management subsidiaries of Mellon Financial Corporation, each of which is an affiliate of the Manager. He is 58 years old and has been an employee of the Manager since May 1995.

STEPHEN R. BYERS, Executive Vice President since November 2002.

Chief Investment Officer, Vice Chairman and a Director of the Manager, and an officer of 97 investment companies (comprised of 190 portfolios) managed by the Manager. Mr. Byers also is an officer, director or an Executive Committee Member of certain other investment management subsidiaries of Mellon Financial Corporation, each of which is an affiliate of the Manager. He is 50 years old and has been an employee of the Manager since January 2000. Prior to joining the Manager, he served as an Executive Vice President–Capital Markets, Chief Financial Officer and Treasurer at Gruntal & Co., L.L.C.

MARK N. JACOBS, Vice President since March 2000.

Executive Vice President, Secretary and General Counsel of the Manager, and an officer of 98 investment companies (comprised of 206 portfolios) managed by the Manager. He is 58 years old and has been an employee of the Manager since June 1977.

JOHN B. HAMMALIAN, Secretary since March 2000.

Associate General Counsel of the Manager, and an officer of 37 investment companies (comprised of 46 portfolios) managed by the Manager. He is 40 years old and has been an employee of the Manager since February 1991.

STEVEN F. NEWMAN, Assistant Secretary since March 2000.

Associate General Counsel and Assistant Secretary of the Manager, and an officer of 98 investment companies (comprised of 206 portfolios) managed by the Manager. He is 54 years old and has been an employee of the Manager since July 1980.

MICHAEL A. ROSENBERG, Assistant Secretary since March 2000.

Associate General Counsel of the Manager, and an officer of 95 investment companies (comprised of 199 portfolios) managed by the Manager. He is 44 years old and has been an employee of the Manager since October 1991.

JAMES WINDELS, Treasurer since November 2001.

Director – Mutual Fund Accounting of the Manager, and an officer of 98 investment companies (comprised of 206 portfolios) managed by the Manager. He is 45 years old and has been an employee of the Manager since April 1985.

**GREGORY S. GRUBER, Assistant
Treasurer since March 2000.**

Senior Accounting Manager – Municipal Bond Funds of the Manager, and an officer of 30 investment companies (comprised of 59 portfolios) managed by the Manager. He is 45 years old and has been an employee of the Manager since August 1981.

**KENNETH J. SANDGREN, Assistant
Treasurer since November 2001.**

Mutual Funds Tax Director of the Manager, and an officer of 98 investment companies (comprised of 206 portfolios) managed by the Manager. He is 49 years old and has been an employee of the Manager since June 1993.

**WILLIAM GERMENIS, Anti-Money
Laundering Compliance Officer since
October 2002.**

Vice President and Anti-Money Laundering Compliance Officer of the Distributor, and the Anti-Money Laundering Compliance Officer of 93 investment companies (comprised of 201 portfolios) managed by the Manager. He is 33 years old and has been an employee of the Distributor since October 1998.

For More Information

**Dreyfus
California Tax Exempt
Bond Fund, Inc.**
200 Park Avenue
New York, NY 10166

Manager

The Dreyfus Corporation
200 Park Avenue
New York, NY 10166

Custodian

The Bank of New York
One Wall Street
New York, NY 10286

Transfer Agent & Dividend Disbursing Agent

Dreyfus Transfer, Inc.
200 Park Avenue
New York, NY 10166

Distributor

Dreyfus Service Corporation
200 Park Avenue
New York, NY 10166

To obtain information:

By telephone

Call 1-800-645-6561

By mail Write to:

The Dreyfus Family of Funds
144 Glenn Curtiss Boulevard
Uniondale, NY 11556-0144

By E-mail Send your request
to info@dreyfus.com

On the Internet Information
can be viewed online or
downloaded from:

<http://www.dreyfus.com>