

EATON VANCE SENIOR FLOATING RATE TRUST

Form N-CSRS

June 26, 2009

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form N-CSR

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

Investment Company Act File Number: 811-21411

Eaton Vance Senior Floating-Rate Trust

(Exact Name of registrant as Specified in Charter)

Two International Place, Boston, Massachusetts 02110

(Address of Principal Executive Offices)

Maureen A. Gemma

Two International Place, Boston, Massachusetts 02110

(Name and Address of Agent for Services)

(617) 482-8260

(registrant's Telephone Number)

October 31

Date of Fiscal Year End

April 30, 2009

Date of Reporting Period

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**IMPORTANT NOTICES REGARDING PRIVACY,
DELIVERY OF SHAREHOLDER DOCUMENTS,
PORTFOLIO HOLDINGS AND PROXY VOTING**

Privacy. The Eaton Vance organization is committed to ensuring your financial privacy. Each of the financial institutions identified below has in effect the following policy (Privacy Policy) with respect to nonpublic personal information about its customers:

Only such information received from you, through application forms or otherwise, and information about your Eaton Vance fund transactions will be collected. This may include information such as name, address, social security number, tax status, account balances and transactions.

None of such information about you (or former customers) will be disclosed to anyone, except as permitted by law (which includes disclosure to employees necessary to service your account). In the normal course of servicing a customer's account, Eaton Vance may share information with unaffiliated third parties that perform various required services such as transfer agents, custodians and broker/dealers.

Policies and procedures (including physical, electronic and procedural safeguards) are in place that are designed to protect the confidentiality of such information.

We reserve the right to change our Privacy Policy at any time upon proper notification to you. Customers may want to review our Policy periodically for changes by accessing the link on our homepage: www.eatonvance.com.

Our pledge of privacy applies to the following entities within the Eaton Vance organization: the Eaton Vance Family of Funds, Eaton Vance Management, Eaton Vance Investment Counsel, Boston Management and Research, and Eaton Vance Distributors, Inc.

In addition, our Privacy Policy only applies to those Eaton Vance customers who are individuals and who have a direct relationship with us. If a customer's account (i.e., fund shares) is held in the name of a third-party financial adviser/broker-dealer, it is likely that only such adviser's privacy policies apply to the customer. This notice supersedes all previously issued privacy disclosures.

For more information about Eaton Vance's Privacy Policy, please call 1-800-262-1122.

Delivery of Shareholder Documents. The Securities and Exchange Commission (the SEC) permits funds to deliver only one copy of shareholder documents, including prospectuses, proxy statements and shareholder reports, to fund investors with multiple accounts at the same residential or post office box address. This practice is often called householding and it helps eliminate duplicate mailings to shareholders.

Eaton Vance, or your financial adviser, may household the mailing of your documents indefinitely unless you instruct Eaton Vance, or your financial adviser, otherwise.

If you would prefer that your Eaton Vance documents not be householded, please contact Eaton Vance at 1-800-262-1122, or contact your financial adviser.

Your instructions that householding not apply to delivery of your Eaton Vance documents will be effective within 30 days of receipt by Eaton Vance or your financial adviser.

Portfolio Holdings. Each Eaton Vance Fund and its underlying Portfolio (if applicable) will file a schedule of its portfolio holdings on Form N-Q with the SEC for the first and third quarters of each fiscal year. The Form N-Q will be available on the Eaton Vance website www.eatonvance.com, by calling Eaton Vance at 1-800-262-1122 or in the EDGAR database on the SEC's website at www.sec.gov. Form N-Q may also be reviewed and copied at the SEC's public reference room in Washington, D.C. (call 1-800-732-0330 for information on the operation of the public reference room).

Proxy Voting. From time to time, funds are required to vote proxies related to the securities held by the funds. The Eaton Vance Funds or their underlying Portfolios (if applicable) vote proxies according to a set of policies and procedures approved by the Funds' and Portfolios' Boards. You may obtain a description of these policies and procedures and information on how the Funds or Portfolios voted proxies relating to portfolio securities during the most recent 12 month period ended June 30, without charge, upon request, by calling 1-800-262-1122. This description is also available on the SEC's website at www.sec.gov.

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Eaton Vance Senior Floating-Rate Trust as of April 30, 2009

INVESTMENT UPDATE

Economic and Market Conditions

Scott H. Page, CFA
Co-Portfolio Manager

Peter M. Campo, CFA
Co-Portfolio Manager

Craig P. Russ
Co-Portfolio Manager

During the six months ending April 30, 2009, credit markets experienced unprecedented volatility in the early part of the period but staged a turnaround in the latter four months. While there is little doubt that a recession would bring higher default rates, it was difficult to reconcile bank loan prices with market fundamentals during November and December of 2008. A range of data and criteria used to monitor creditworthiness suggested that overall credit quality appeared to be in line with previous downturns. Despite this, bank loans traded far below levels consistent with default and recovery expectations, reflecting a full-scale breakdown in the credit markets. Some selling was forced, especially by hedge funds and structured investment vehicles unable to meet margin requirements. In the final four months of the period, however, the market for bank loans began to recover, and cash was put to work in a sector with no active sellers and a new issue market that remained largely closed. As a result, loan prices jumped. We believe that this could be the primary theme from the technical side of the market for the near term. Other positive developments included spread tightening and robust debt issuance in the investment-grade debt market and improvements in short-term financing and other liquidity measures as government stimulus programs began to take hold. We believe this thawing of the high end of the credit markets is beginning to gradually filter down to non-investment-grade sectors. We have also seen several instances in the below-investment-grade market in which issuers have successfully refinanced their debt and/or issued bonds to retire term loans. We are encouraged by these developments and believe they should contribute to improving technicals in our market. Ironically, as performance has improved in 2009, defaults have increased a trend we expect may continue.

Management Discussion

The Trust is a closed-end fund and trades on the New York Stock Exchange under the symbol EFR. The Trust's investment objective is to provide a high level of current income. As a secondary objective, it may also seek preservation of capital to the extent consistent with its primary goal of high current income. Under normal market conditions, the Trust invests at least 80% of its total assets in senior, secured floating-rate loans (senior loans). In managing the Trust, the investment adviser seeks to invest in a portfolio of senior loans that it believes will be less volatile over time than the general loan market. The Trust may also invest in second lien loans and high-yield bonds, and, as discussed below, employs leverage, which may increase risk.

Eaton Vance Senior Floating-Rate Trust

Total Return Performance 10/31/08 4/30/09

NYSE Symbol	EFR
At Net Asset Value (NAV) ¹	4.99%
At Share Price ¹	7.07
S&P/LSTA Leveraged Loan Index ²	5.98
Premium/(Discount) to NAV (4/30/09)	-5.13%
Total Distributions per common share	\$ 0.444

Distribution Rate ³	<i>At NAV</i>	7.57%
	<i>At Share Price</i>	7.98%

Please refer to page 3 for additional performance information.

- ¹ Performance results reflect the effects of leverage.
- ² It is not possible to invest directly in an Index. The Index's total return reflects changes in value of the loans constituting the Index and accrual of interest and does not reflect the commissions or expenses that would have been incurred if an investor individually purchased or sold the loans represented in the Index. Unlike the Trust, the Index's return does not reflect the effect of leverage.
- ³ The Distribution Rate is based on the Trust's most recent monthly distribution per share (annualized) divided by the Trust's NAV or share price at the end of the period. The Trust's monthly distributions may be comprised of ordinary income, net realized capital gains and return of capital.

Past performance is no guarantee of future results. Returns are historical and are calculated by determining the percentage change in net asset value or share price (as applicable) with all distributions reinvested. The Trust's performance at share price will differ from its results at NAV. Although share price performance generally reflects investment results over time, during shorter periods, returns at share price can also be affected by factors such as changing perceptions about the Trust, market conditions, fluctuations in supply and demand for the Trust's shares, or

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changes in Trust distributions. Investment return and principal value will fluctuate so that shares, when sold, may be worth more or less than their original cost. Performance is for the stated time period only; due to market volatility, the Trust's current performance may be lower or higher than the quoted return. Absent an expense waiver by the investment adviser, the returns would be lower. For performance as of the most recent month end, please refer to www.eatonvance.com.

Trust shares are not insured by the FDIC and are not deposits or other obligations of, or guaranteed by, any depository institution. Shares are subject to investment risks, including possible loss of principal invested.

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Eaton Vance Senior Floating-Rate Trust as of April 30, 2009

INVESTMENT UPDATE

As of April 30, 2009, the Trust's investments included senior loans to 391 borrowers spanning 39 industries, with an average loan size of 0.24% of total investments, and no industry constituting more than 10% of total investments. Healthcare, business equipment and services, and cable and satellite television were among the top industry weightings.

During the six-month period, the Trust's return at net asset value lagged the S&P/LSTA Leveraged Loan Index (the Index), primarily because leverage hurt performance in the first two months of the period—November and December of 2008—more than it helped during the credit recovery in the latter four months of the period.

The Trust's higher relative weightings in business equipment and services and in cable and satellite television, both of which outperformed the broader market, contributed positively to its relative performance. A higher relative percentage of single B and BB-rated issues, which outperformed lower-quality loans, was also helpful.

As of April 30, 2009, the Trust employed leverage of 36.5% of total assets—24.4% auction preferred shares (APS) and 12.1% borrowings. Use of leverage creates an opportunity for income, but at the same time creates special risks (including the likelihood of greater volatility of net asset value and market price of common shares).

As we move into this rising default environment in 2009, we believe that our experienced credit research analysts helped us to avoid some of the riskiest names, resulting in the Trust having fewer defaulted loans than many of its peers. In addition, we believe our diversified approach to the asset class—which includes keeping investments in individual issues relatively small—has helped to contain the degree of losses associated with the defaulted loans that the Trust does hold.

¹ It is not possible to invest directly in an Index. The Index's total return reflects changes in value of the loans constituting the Index and accrual of interest and does not reflect the commissions or expenses that would have been incurred if an investor individually purchased or sold the loans represented in the Index. Unlike the Trust, the Index's return does not reflect the effect of

leverage.

- 2 In the event of a rise in long-term interest rates, the value of the Trust's investment portfolio could decline, which would reduce the asset coverage for its APS and borrowings. APS percentage represents the liquidation value of the Trust's APS outstanding at 4/30/09 as a percentage of the Trust's net assets applicable to common shares plus APS and borrowings outstanding.

The views expressed throughout this report are those of the portfolio managers and are current only through the end of the period of the report as stated on the cover. These views are subject to change at any time based upon market or other conditions, and the investment adviser disclaims any responsibility to update such views. These views may not be relied on as investment advice and, because investment decisions for a fund are based on many factors, may not be relied on as an indication of trading intent on behalf of any Eaton Vance fund. Portfolio information provided in the report may not be representative of the Trust's current or future investments and may change due to active management.

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Eaton Vance Senior Floating-Rate Trust as of April 30, 2009
FUND PERFORMANCE

Trust Performance¹

New York Stock Exchange Symbol (NYSE)	EFR
Average Annual Total Returns (by share price, NYSE)	
Six Months	7.07%
One Year	-28.99
Five Years	-6.28
Life of Trust (11/28/03)	-4.62
Average Annual Total Returns (at net asset value)	
Six Months	4.99%
One Year	-29.44
Five Years	-4.20
Life of Trust (11/28/03)	-3.69

¹ *Performance results reflect the effects of leverage.*

Portfolio Composition

Top Ten Holdings²

By total investments	
Intelsat Corp.	1.3%
SunGard Data Systems, Inc.	1.2
UPC Broadband Holding B.V.	1.2
Community Health Systems, Inc.	1.1
Rite Aid Corp.	1.1
Georgia-Pacific Corp.	1.1
MCC Iowa, LLC	1.0
Cequel Communications, LLC	0.9
Graphic Packaging International, Inc.	0.8
Centennial Cellular Operating Co., LLC	0.8

² Reflects the Trust's investments as of 4/30/09. Holdings are shown as a percentage of the Trust's total investments.

Top Five Industries³

By total investments	
Healthcare	10.0%
Business Equipment and Services	7.6
Cable and Satellite Television	7.2
Leisure Goods/Activities/Movies	6.6
Publishing	5.2

³ Reflects the Trust's investments as of 4/30/09. Industries are shown as a percentage of the Trust's total investments.

Credit Quality Ratings for Total Loan Investments⁴

By total loan investments	
Baa	0.7%
Ba	34.5
B	38.5
Caa	10.0
Defaulted	6.0
Non-Rated ⁵	10.3

⁴ Credit Quality ratings are those provided by Moody's Investor Services, Inc., a nationally recognized bond rating service. Reflects the Trust's total loan investments as of 4/30/09. Although the investment adviser considers ratings when making investment decisions, it performs its own credit and

investment analysis and does not rely primarily on the ratings assigned by the rating services. Credit quality can change from time to time, and recently issued credit ratings may not fully reflect the actual risks posed by a particular security or the issuer's current financial condition.

- 5 Certain loans in which the Trust invests are not rated by a rating agency. In management's opinion, such securities are comparable to securities rated by a rating agency in the categories listed above.

Past performance is no guarantee of future results. Returns are historical and are calculated by determining the percentage change in net asset value or share price (as applicable) with all distributions reinvested. The Trust's performance at share price will differ from its results at NAV. Although share price performance generally reflects investment results over time, during shorter periods, returns at share price can also be affected by factors such as changing perceptions about the Trust, market conditions, fluctuations in supply and demand for the Trust's shares, or changes in Trust distributions. Investment return and principal value will fluctuate so that shares, when redeemed, may be worth more or less than their original cost. Performance is for the stated time period only; due to market volatility, the Trust's current performance may be lower or higher than the quoted return. Absent an expense waiver by the investment adviser, the returns would be lower. For performance as of the most recent month end, please refer to www.eatonvance.com.

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Eaton Vance Senior Floating-Rate Trust as of April 30, 2009

PORTFOLIO OF INVESTMENTS (Unaudited)

Senior Floating-Rate Interests 145.4%)

Principal Amount*	Borrower/Tranche Description	Value
Aerospace and Defense 3.6%		
ACTS Aero Technical Support & Service, Inc.		
709,366	Term Loan, 7.37%, Maturing October 5, 2014	\$ 138,326
AWAS Capital, Inc.		
724,965	Term Loan, 3.00%, Maturing March 22, 2013	514,725
Colt Defense, LLC		
976,450	Term Loan, 4.01%, Maturing July 9, 2014	878,805
DAE Aviation Holdings, Inc.		
416,490	Term Loan, 4.39%, Maturing July 31, 2014	245,729
409,534	Term Loan, 4.79%, Maturing July 31, 2014	241,625
Evergreen International Aviation		
1,376,943	Term Loan, 9.00%, Maturing October 31, 2011	724,616
Hawker Beechcraft Acquisition		
256,285	Term Loan, 3.22%, Maturing March 26, 2014	134,122
4,353,422	Term Loan, 3.22%, Maturing March 26, 2014	2,278,289
Hexcel Corp.		
818,375	Term Loan, 3.34%, Maturing March 1, 2012	752,905
IAP Worldwide Services, Inc.		
882,173	Term Loan, 8.25%, Maturing December 30, 2012 ⁽²⁾	507,250
Spirit AeroSystems, Inc.		
1,589,406	Term Loan, 2.89%, Maturing December 31, 2011	1,462,254
TransDigm, Inc.		
1,625,000	Term Loan, 3.23%, Maturing June 23, 2013	1,496,354
Vought Aircraft Industries, Inc.		

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2,097,896	Term Loan, 2.93%, Maturing December 17, 2011	1,659,960
496,475	Term Loan, 7.50%, Maturing December 22, 2011	417,867
Wesco Aircraft Hardware Corp.		
1,142,688	Term Loan, 2.68%, Maturing September 29, 2013	948,431
		\$ 12,401,258

Air Transport 0.8%

Airport Development and Investment, Ltd.		
GBP 782,900	Term Loan - Second Lien, 5.54%, Maturing April 7, 2011	\$ 490,780
Delta Air Lines, Inc.		
1,179,000	Term Loan - Second Lien, 3.74%, Maturing April 30, 2014	609,641
Northwest Airlines, Inc.		
1,916,833	Term Loan, 2.46%, Maturing December 31, 2010	1,776,664
		\$ 2,877,085

Automotive 6.7%

Accuride Corp.		
1,957,967	Term Loan, 8.00%, Maturing January 31, 2012	\$ 1,198,031
Adesa, Inc.		
2,543,805	Term Loan, 3.10%, Maturing October 18, 2013	2,134,252
Affina Group, Inc.		
1,325,940	Term Loan, 4.04%, Maturing November 30, 2011	945,837
Allison Transmission, Inc.		
1,903,055	Term Loan, 3.22%, Maturing September 30, 2014	1,373,899
Chrysler Financial		
2,473,656	Term Loan, 4.45%, Maturing August 1, 2014	1,837,572
CSA Acquisition Corp.		
353,889	Term Loan, 3.75%, Maturing December 23, 2011	116,783

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884,071	Term Loan, 3.75%, Maturing December 23, 2011	291,744
483,750	Term Loan, 3.75%, Maturing December 23, 2012	159,637
Dayco Products, LLC		
1,728,451	Term Loan, 0.00%, Maturing June 21, 2011 ⁽³⁾	264,453
Delphi Corp.		
1,361,357	DIP Loan, 0.00%, Maturing June 30, 2009 ⁽³⁾	231,431
138,644	DIP Loan, 10.50%, Maturing June 30, 2009	23,569
Federal-Mogul Corp.		
1,492,610	Term Loan, 2.43%, Maturing December 27, 2014	853,276
3,135,523	Term Loan, 2.39%, Maturing December 27, 2015	1,792,475
Ford Motor Co.		
2,233,787	Term Loan, 3.69%, Maturing December 15, 2013	1,414,901
General Motors Corp.		
3,379,737	Term Loan, 8.00%, Maturing November 29, 2013	2,222,177
Goodyear Tire & Rubber Co.		
2,400,000	Term Loan - Second Lien, 2.19%, Maturing April 30, 2010	2,016,430
HLI Operating Co., Inc.		
EUR 109,091	Term Loan, 9.50%, Maturing May 30, 2014	57,014
EUR 1,853,091	Term Loan, 9.50%, Maturing May 30, 2014	968,470
Keystone Automotive Operations, Inc.		
1,330,251	Term Loan, 4.33%, Maturing January 12, 2012	555,380
LKQ Corp.		
952,504	Term Loan, 2.71%, Maturing October 12, 2014	850,110
TriMas Corp.		
234,375	Term Loan, 2.75%, Maturing August 2, 2011	200,977
1,980,082	Term Loan, 3.09%, Maturing August 2, 2013	1,697,920
TRW Automotive, Inc.		
1,000,000	Term Loan, 2.00%, Maturing February 2, 2014	671,667
United Components, Inc.		
1,137,153	Term Loan, 3.50%, Maturing June 30, 2010	858,551
		\$ 22,736,556

See notes to financial statements

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Eaton Vance Senior Floating-Rate Trust as of April 30, 2009

PORTFOLIO OF INVESTMENTS (Unaudited) CONT D

Principal Amount*	Borrower/Tranche Description	Value
Beverage and Tobacco	0.1%	
Culligan International Co.		
EUR 975,000	Term Loan - Second Lien, 6.25%, Maturing May 31, 2013	\$ 249,942
		\$ 249,942
Brokers, Dealers and Investment Houses	0.2%	
AmeriTrade Holding Corp.		
730,172	Term Loan, 1.95%, Maturing December 31, 2012	\$ 692,751
		\$ 692,751
Building and Development	3.8%	
Beacon Sales Acquisition, Inc.		
1,146,000	Term Loan, 3.13%, Maturing September 30, 2013	\$ 936,855
Brickman Group Holdings, Inc.		
1,185,764	Term Loan, 2.43%, Maturing January 23, 2014	1,036,061
Epco/Fantome, LLC		
1,342,000	Term Loan, 3.06%, Maturing November 23, 2010	1,026,630
Forestar USA Real Estate Group, Inc.		
1,549,657	Revolving Loan, 4.38%, Maturing December 1, 2010 ⁽⁴⁾	1,278,467

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1,550,000	Term Loan, 4.44%, Maturing December 1, 2010	1,278,750
Hovstone Holdings, LLC		
894,412	Term Loan, 5.50%, Maturing July 1, 2009 ⁽⁵⁾	359,822
LNR Property Corp.		
1,144,000	Term Loan, 4.00%, Maturing July 3, 2011	610,896
Metroflag BP, LLC		
500,000	Term Loan - Second Lien, 0.00%, Maturing July 2, 2009 ⁽³⁾	37,500
Mueller Water Products, Inc.		
1,762,318	Term Loan, 2.66%, Maturing May 24, 2014	1,489,159
NCI Building Systems, Inc.		
553,061	Term Loan, 1.95%, Maturing June 18, 2010	445,214
November 2005 Land Investors		
304,334	Term Loan, 6.43%, Maturing May 9, 2011 ⁽²⁾	152,167
Panolam Industries Holdings, Inc.		
1,000,288	Term Loan, 5.00%, Maturing September 30, 2012	575,166
Re/Max International, Inc.		
636,247	Term Loan, 4.61%, Maturing December 17, 2012	448,554
456,309	Term Loan, 8.61%, Maturing December 17, 2012	321,698
Realogy Corp.		
321,321	Term Loan, 4.18%, Maturing September 1, 2014	209,433
678,679	Term Loan, 4.18%, Maturing September 1, 2014	442,353
South Edge, LLC		
787,500	Term Loan, 0.00%, Maturing October 31, 2009 ⁽³⁾	143,063
TRU 2005 RE Holding Co.		
3,539,635	Term Loan, 3.51%, Maturing December 9, 2009	2,238,819