EATON VANCE SENIOR FLOATING RATE TRUST Form N-CSRS June 27, 2014

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, 2014

Date of Reporting Period

Item 1. Reports to Stockholders

Senior Floating-Rate Trust (EFR)

Semiannual Report

April 30, 2014

Commodity Futures Trading Commission Registration. Effective December 31, 2012, the Commodity Futures Trading Commission (CFTC) adopted certain regulatory changes that subject registered investment companies and advisers to regulation by the CFTC if a fund invests more than a prescribed level of its assets in certain CFTC-regulated instruments (including futures, certain options and swap agreements) or markets itself as providing investment exposure to such instruments. The Fund has claimed an exclusion from the definition of the term—commodity pool operator—under the Commodity Exchange Act. Accordingly, neither the Fund nor the adviser with respect to the operation of the Fund is subject to CFTC regulation. Because of its management of other strategies, the Fund s adviser is registered with the CFTC as a commodity pool operator and a commodity trading advisor.

Fund 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.

Semiannual Report April 30, 2014

Eaton Vance

Senior Floating-Rate Trust

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Senior Floating-Rate Trust

April 30, 2014

Performance^{1,2}

Portfolio Managers Scott H. Page, CFA, Craig P. Russ and Peter M. Campo, CFA

% Average Annual Total Returns	Inception Date	Six Months	One Year	Five Years	Ten Years
Fund at NAV	11/28/2003	2.57%	4.57%	16.96%	5.85%
Fund at Market Price		2.15	8.17	17.08	4.75
S&P/LSTA Leveraged Loan Index		2.29%	3.84%	10.68%	5.19%
% Premium/Discount to NAV ³					
					4.66%
Distributions ⁴					
Total Distributions per share for the period					\$0.531
Distribution Rate at NAV					5.75%
Distribution Rate at Market Price					6.03%
% Total Leverage ⁵					
Auction Preferred Shares (APS)					14.30%
Borrowings					22.87

See Endnotes and Additional Disclosures in this report.

Past performance is no guarantee of future results. Returns are historical and are calculated by determining the percentage change in net asset value (NAV) or market price (as applicable) with all distributions reinvested and includes management fees and other expenses. Fund performance at market price will differ from its results at NAV due to factors such as changing perceptions about the Fund, market conditions, fluctuations in supply and demand for Fund shares, or changes in Fund distributions. Investment return and principal value will fluctuate so that shares, when sold, may be worth more or less than their original cost. Performance less than one year is cumulative. Performance is for the stated time period only; due to market volatility, current Fund performance may be lower or higher than the quoted return. For performance as of the most recent month end, please refer to eatonvance.com.

Senior Floating-Rate Trust

April 30, 2014

Fund Profile

Top 10 Issuers (% of total investments)⁶

Alliance Boots Holdings Limited	1.2%
Asurion LLC	1.1
Community Health Systems, Inc.	1.0
Dell Inc.	1.0
H.J. Heinz Company	0.9
Valeant Pharmaceuticals International, Inc.	0.9
Laureate Education, Inc.	0.8
Intelsat Jackson Holdings S.A.	0.8
Virgin Media Investment Holdings Limited	0.8
MEG Energy Corp.	0.8
Total	9.3%

Top 10 Sectors (% of total investments) 6

Health Care	9.2%
Business Equipment and Services	8.2
Electronics/Electrical	7.7
Retailers (Except Food and Drug)	5.2
Financial Intermediaries	4.6
Chemicals and Plastics	4.2
Oil and Gas	3.9
Leisure Goods/Activities/Movies	3.7
Food Products	3.7
Automotive	3.7
Total	54.1%

Credit Quality (% of bond and loan holdings) ⁷	
See Endnotes and Additional Disclosures in this report.	
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Senior Floating-Rate Trust

April 30, 2014

Endnotes and Additional Disclosures

- ¹ S&P/LSTA Leveraged Loan Index is an unmanaged index of the institutional leveraged loan market. Unless otherwise stated, index returns do not reflect the effect of any applicable sales charges, commissions, expenses, taxes or leverage, as applicable. It is not possible to invest directly in an index.
- ² Performance results reflect the effects of leverage. The Fund s performance for certain periods reflects the effects of expense reductions. Absent these reductions, performance would have been lower. Performance since inception for an index, if presented, is the performance since the Fund s or oldest share class inception, as applicable.
- ³ The shares of the Fund often trade at a discount or premium from their net asset value. The discount or premium of the Fund may vary over time and may be higher or lower than what is quoted in this report. For up-to-date premium/discount information, please refer to http://eatonvance.com/closedend.
- ⁴ The Distribution Rate is based on the Fund s last regular distribution per share in the period (annualized) divided by the Fund s NAV or market price at the end of the period. The Fund s distributions may be comprised of amounts characterized for federal income tax purposes as tax-exempt income, qualified and non-qualified ordinary dividends, capital gains and nondividend distributions, also known as return of capital. The Fund will determine the federal income tax character of distributions paid to a shareholder after the end of the calendar year. This is reported on the IRS form 1099-DIV and provided to the shareholder shortly after each year-end. For information about the tax character of distributions made in prior calendar years, please refer to Performance-Tax Character of Distributions on the Fund s webpage available at eatonvance.com. The Fund s distributions are determined by the investment adviser based on its current assessment of the Fund s long-term return potential. As portfolio and market conditions change, the rate of distributions paid by the Fund could change.
- ⁵ Leverage represents the liquidation value of the Fund s APS and borrowings outstanding as a percentage of Fund net assets applicable to common shares plus APS and borrowings outstanding. Use of leverage creates an opportunity for income, but creates risks including greater price volatility. The cost of leverage rises and falls with changes in short-term interest rates. The Fund may be required to maintain prescribed asset coverage for its leverage and may be required to reduce its leverage at an inopportune time.
- ⁶ Excludes cash and cash equivalents.
- Ratings are based on Moody s, S&P or Fitch, as applicable. If securities are rated differently by the rating agencies, the higher rating is applied. Ratings, which are subject to change, apply to the creditworthiness of the issuers of the underlying securities and not to the Fund or its shares. Credit ratings measure the quality of a bond based on the issuer s creditworthiness, with ratings ranging from AAA, being the highest, to D, being the lowest based on S&P s measures. Ratings of BBB or higher by S&P or Fitch (Baa or higher by Moody s) are considered to be investment grade quality. Credit ratings are based largely on the rating agency s analysis at the time of rating. The rating assigned to any particular security is not necessarily a reflection of the issuer s current financial condition and does not necessarily reflect its assessment of the volatility of a security s market value or of the liquidity of an investment in the security. Holdings designated as Not Rated are not rated by the national rating agencies stated above.

Fund profile subject to change due to active management.

Senior Floating-Rate Trust

April 30, 2014

Portfolio of Investments (Unaudited)

Senior Floating-Rate Interests 142.4%)

Borrower/Tranche Description	Principal Amount* (000 s omitted)	Value
Aerospace and Defense 2.4%		
Atlantic Aviation FBO Inc.		
Term Loan, 3.25%, Maturing June 1, 2020	671	\$ 669,586
Booz Allen Hamilton Inc.		
Term Loan, 5.25%, Maturing July 31, 2019	813	814,263
DAE Aviation Holdings, Inc.	207	210 100
Term Loan, 5.00%, Maturing November 2, 2018	306	310,189
Term Loan, 5.00%, Maturing November 2, 2018 Delos Finance S.a.r.l.	674	684,241
Term Loan, 3.50%, Maturing March 6, 2021	2,450	2,445,916
Ducommun Incorporated	2,430	2,443,910
Term Loan, 4.75%, Maturing June 28, 2017	938	941,992
IAP Worldwide Services, Inc.	750	711,772
Term Loan, 0.00%, Maturing December 31, 2015 ⁽²⁾	1,640	513,918
Term Loan - Second Lien, 0.00%, Maturing June 30, 2016 ⁽²⁾⁽⁴⁾	725	18,125
Sequa Corporation		
Term Loan, 5.25%, Maturing June 19, 2017	784	771,069
Silver II US Holdings, LLC		
Term Loan, 4.00%, Maturing December 13, 2019	1,909	1,903,874
Transdigm, Inc.		
Term Loan, 3.75%, Maturing February 28, 2020	4,771	4,754,363
		\$ 13,827,536
Automotive 5.7%		
Affinia Group Intermediate Holdings Inc.		
Term Loan, 4.75%, Maturing April 27, 2020	1,538	\$ 1,544,605
Allison Transmission, Inc.	1,000	Ψ 1,5,005
Term Loan, 3.75%, Maturing August 23, 2019	2,827	2,823,214
ASP HHI Acquisition Co., Inc.		
Term Loan, 5.00%, Maturing October 5, 2018	2,225	2,230,948
Chrysler Group LLC		
Term Loan, 3.50%, Maturing May 24, 2017	4,925	4,924,680
Term Loan, 3.25%, Maturing December 31, 2018	2,100	2,085,300
CS Intermediate Holdco 2 LLC		
Term Loan, 4.00%, Maturing April 4, 2021	650	649,594
Dayco Products, LLC	1.000	1 002 750
Term Loan, 5.25%, Maturing December 12, 2019	1,000	1,003,750
Federal-Mogul Corporation		

Term Loan, 4.75%, Maturing March 21, 2021	3,925	3,900,469
Goodyear Tire & Rubber Company (The) Term Loan - Second Lien, 4.75%, Maturing April 30, 2019	6,650	6,670,781
INA Beteiligungsgesellschaft GmbH Term Loan, 4.25%, Maturing January 27, 2017	775 Principal	777,903
Borrower/Tranche Description	Amount* (000 s omitted)	Value
Automotive (continued) Metaldyne, LLC		
Term Loan, 4.25%, Maturing December 18, 2018	1,633	\$ 1,637,806
Tower Automotive Holdings USA, LLC Term Loan, 4.00%, Maturing April 23, 2020	792	790,540
Veyance Technologies, Inc. Term Loan, 5.25%, Maturing September 8, 2017	2,871	2,877,262
Visteon Corporation Term Loan, Maturing May 27, 2021 ⁽³⁾	1,075	1,068,113
	,	
		\$ 32,984,965
Beverage and Tobacco 0.6%		
Oak Leaf B.V.	EUD 2.525	Ф 2.527.250
Term Loan, 4.50%, Maturing September 24, 2018	EUR 2,525	\$ 3,537,359
		\$ 3,537,359
Brokers, Dealers and Investment Houses 0.1% American Beacon Advisors, Inc.		
Term Loan, 4.75%, Maturing November 22, 2019	449	\$ 453,364
		\$ 453,364
Building and Development 1.2%		
ABC Supply Co., Inc. Term Loan, 3.50%, Maturing April 16, 2020	1,269	\$ 1,263,339
Armstrong World Industries, Inc. Term Loan, 3.50%, Maturing March 16, 2020	545	545,385
CPG International Inc. Term Loan, 4.75%, Maturing September 30, 2020	622	624,110
Quikrete Holdings, Inc. Term Loan, 4.00%, Maturing September 28, 2020	970	970,853
RE/MAX International, Inc.		,
Term Loan, 4.00%, Maturing July 31, 2020 Realogy Corporation Term Loan,	1,579	1,582,098