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Boston Retirement System

July Flash Report (Gross)

Mike Manning, CFA, CAIA, Managing Partner
Will Forde, CAIA, Consultant
Jake Mallinson, Analyst

255 State Street, Boston, MA 02109 | TEL: 617.374.1300 | FAX: 617.374.1313 | www.nepc.com
BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

Index Performance Summary as of 07/31/2017

	2009	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	July	YTD
EM Equity	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	6.0%	25.5%
Int'l Developed Equity	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	2.9%	17.1%
EM Local Credit	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	6.5%	3.6%	2.1%	12.7%
US Large Cap	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	2.1%	11.6%
US Small/Mid Cap	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	1.0%	7.1%
Global Credit	-6.5%	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.7%	6.2%
US High Yield	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	2.7%	2.2%	1.1%	6.1%
US Long Treasuries	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	1.4%	4.0%	-0.6%	4.8%
US Credit	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.4%	2.7%
Commodities	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	-2.3%	-3.2%	2.3%	-3.1%

Source: Bloomberg, Barclays, S&P, Russell, MSCI, JP Morgan, Credit Suisse

S&P 500 = US Large Cap
Russell 2500 = US Small/Mid Cap
MSCI EAFE = International Developed Equity
MSCI EM = Emerging Market Equity
Barclays Agg = US Credit
Barclays Long Treasury = US Long Treasuries
Barclays High Yield = US HY
Barclays Global Agg = Global Credit
GBI-EM Global Diversified = EM Local Credit
Bloomberg Commodity = Commodities

Total Fund Performance Detail (Gross)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Composite*	**4,657,990,678**	**100.0**	**100.0**	**1.9**	**4.0**	**11.1**	**14.0**	**6.1**	**8.7**	**5.4**	**8.0**	**Aug-94**
Allocation Index				*1.8*	*3.9*	*10.1*	*12.6*	*5.8*	*8.2*	*5.0*	*--*	*Aug-94*
Policy Index				*1.7*	*3.9*	*10.2*	*13.0*	*6.2*	*8.5*	*5.4*	*--*	*Aug-94*
PRIT Core Fund/Teachers*	1,554,844,221	33.4		1.7	4.3	10.7	12.1	7.3	10.0	--	10.2	Jul-10
Total Equity	**2,584,258,744**	**55.5**	**52.0**	**3.0**	**6.0**	**17.4**	**20.9**	**7.4**	**12.4**	**--**	**--**	
Large Cap Comp	**970,926,789**	**20.8**	**19.0**	**2.2**	**4.4**	**13.2**	**18.9**	**11.3**	**16.4**	**8.5**	**9.1**	**Dec-04**
Rhumbline Advisors	123,123,756	2.6		2.0	4.1	11.6	16.0	10.8	14.7	7.8	9.7	Aug-94
DE Shaw Core Enhanced	217,256,425	4.7		2.0	4.0	11.6	16.4	11.2	15.2	--	14.6	Oct-09
JP Morgan 130/30	177,740,699	3.8		2.6	3.7	12.6	20.3	11.1	16.8	--	14.6	Oct-09
S&P 500				*2.1*	*4.1*	*11.6*	*16.0*	*10.9*	*14.8*	*7.7*	*13.8*	*Oct-09*
DE Shaw 130/30	189,687,483	4.1		2.5	4.1	12.8	18.0	12.6	16.3	--	15.9	Oct-09
Russell 1000				*2.0*	*4.0*	*11.4*	*15.9*	*10.6*	*14.8*	*7.8*	*13.9*	*Oct-09*
J&W Seligman	117,298,420	2.5		1.5	2.8	6.9	19.2	9.2	16.8	8.5	9.7	Jan-97
Russell 1000 Value				*1.3*	*2.9*	*6.0*	*13.8*	*8.5*	*14.0*	*6.2*	*8.4*	*Jan-97*
Zevenbergen Capital	89,775,314	1.9		1.9	9.2	27.9	28.8	10.2	20.0	10.9	11.6	Aug-94
Intech	56,044,693	1.2		2.9	6.5	19.1	18.1	13.5	15.9	9.2	9.1	Oct-06
Russell 1000 Growth				*2.7*	*5.0*	*17.0*	*18.1*	*12.7*	*15.6*	*9.4*	*9.8*	*Oct-06*
Small Cap Comp	**312,210,949**	**6.7**	**6.0**	**1.6**	**3.2**	**13.6**	**20.6**	**8.8**	**14.8**	**9.3**	**9.7**	**Dec-04**
Westfield Capital Management	123,267,512	2.6		1.4	3.2	16.4	18.8	7.6	14.8	10.1	10.8	Sep-03
Russell 2000 Growth				*0.9*	*3.4*	*10.9*	*17.8*	*10.2*	*14.6*	*8.5*	*9.4*	*Sep-03*
Bernzott	92,416,973	2.0		1.6	2.5	11.8	19.7	--	--	--	12.8	Nov-15
Russell 2000 Value				*0.6*	*0.9*	*1.2*	*19.2*	*9.5*	*13.8*	*6.9*	*16.1*	*Nov-15*
Aristotle	96,518,465	2.1		1.6	3.9	11.7	23.9	--	--	--	16.9	Nov-15
Russell 2000				*0.7*	*2.1*	*5.8*	*18.5*	*9.9*	*14.2*	*7.8*	*14.0*	*Nov-15*

- DE Shaw 130/30 and DE Shaw Core Enhanced are preliminary.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

Total Fund Performance Detail (Gross)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Non-US Equity	**1,301,121,005**	**27.9**	**27.0**	**3.9**	**7.9**	**21.7**	**22.6**	**4.0**	**8.5**	**2.5**	**6.7**	**Aug-94**
International Equity	**843,943,608**	**18.1**	**19.0**	**3.6**	**7.3**	**19.3**	**21.4**	**3.7**	**9.8**	**--**	**7.1**	**Dec-10**
Todd	257,205,203	5.5		5.0	8.8	20.2	20.6	--	--	--	15.4	Apr-16
MSCI ACWI ex USA Gross				*3.7*	*7.6*	*18.7*	*19.6*	*2.8*	*8.2*	*2.0*	*18.2*	*Apr-16*
Panagora Asset Management	320,039,674	6.9		3.0	6.2	17.2	21.2	5.6	11.5	3.7	6.4	Aug-94
Fisher	266,185,118	5.7		3.0	7.4	21.1	22.4	5.7	10.2	3.3	5.2	Feb-06
MSCI EAFE				*2.9*	*6.5*	*17.1*	*17.8*	*2.8*	*9.1*	*1.5*	*3.6*	*Feb-06*
Emerging Markets	**457,177,397**	**9.8**	**8.0**	**4.5**	**9.0**	**26.5**	**24.8**	**4.8**	**5.6**	**--**	**3.8**	**Dec-10**
Vontobel	101,911,753	2.2		4.3	10.5	28.7	17.9	4.7	6.1	7.4	11.6	Oct-05
Polunin	113,272,975	2.4		6.4	9.9	27.4	33.7	7.8	--	--	10.4	Oct-13
SSgA Emerging Markets	134,608,292	2.9		5.6	9.8	26.2	25.5	1.9	--	--	3.1	Oct-13
MSCI Emerging Markets				*6.0*	*10.2*	*25.5*	*24.8*	*2.4*	*4.8*	*2.0*	*4.5*	*Oct-13*
Lazard	107,384,376	2.3		1.6	5.6	23.9	22.0	5.8	--	--	6.0	Oct-13
MSCI Emerging Markets Small Cap				*3.6*	*5.1*	*20.1*	*16.2*	*1.8*	*5.9*	*1.7*	*4.2*	*Oct-13*
Total Fixed Income	**1,064,502,002**	**22.9**	**24.0**									
Core Fixed Income	**481,805,398**	**10.3**	**11.0**	**0.5**	**1.1**	**2.9**	**1.8**	**3.3**	**2.6**	**5.3**	**4.9**	**Dec-04**
Wells Asset Management	97,750,846	2.1		0.5	1.0	2.8	0.1	3.2	2.8	5.8	5.4	May-05
BlackRock SIO	169,890,121	3.6		0.6	1.5	3.4	5.5	--	--	--	3.3	Aug-15
BBgBarc US Aggregate TR				*0.4*	*1.1*	*2.7*	*-0.5*	*2.7*	*2.0*	*4.4*	*2.7*	*Aug-15*
IR&M	214,164,431	4.6		0.5	0.8	2.6	-0.2	--	--	--	3.6	Jul-15
IR&M Custom Benchmark				*0.4*	*0.4*	*2.0*	*-1.2*	*2.5*	*1.9*	*4.4*	*2.6*	*Jul-15*

- Golden Tree Multi Spec Opps Credit market value and return is preliminary.
- IR&M Custom Benchmark reflects BC Agg since inception through 04/30/2017, as of 05/01/2017 forward it reflects 60% BC Agg/40% BC US TIPS.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

Total Fund Performance Detail (Gross)

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Value Added Fixed Income	**582,696,605**	**12.5**	**13.0**	**1.5**	**2.7**	**7.6**	**10.9**	**3.0**	**3.5**	**--**	**--**	
High Yield Income	**382,806,419**	**8.2**	**9.0**	**1.3**	**2.4**	**6.2**	**11.3**	**5.6**	**6.3**	**7.8**	**7.5**	**Jan-06**
Crescent Capital	121,402,128	2.6		1.0	1.7	4.8	9.2	--	--	--	6.8	May-15
50/50 S&P/LSTA Leveraged Loan/BBgBarc High Yield				*0.9*	*1.6*	*4.3*	*8.8*	*4.5*	*5.6*	*6.6*	*5.0*	*May-15*
DDJ	133,617,904	2.9		1.7	3.4	9.6	18.0	--	--	--	8.1	May-15
75% BC HY 25% S&P Leverage Loan				*1.0*	*1.8*	*5.2*	*9.9*	--	--	--	*5.6*	*May-15*
GoldenTree Multi Spec Opp Credit	125,935,671	2.7		1.0	1.9	4.7	--	--	--	--	5.7	Dec-16
3-Month LIBOR + 7%				*0.7*	*2.0*	*4.7*	*8.2*	*7.7*	*7.5*	*8.0*	*5.4*	*Dec-16*
S&P/LSTA U.S. Leveraged Loan				*0.7*	*1.0*	*2.6*	*6.6*	*3.6*	*4.5*	*4.9*	*3.8*	*Dec-16*
Emerging Market Debt	**176,821,196**	**3.8**	**4.0**	**1.9**	**3.4**	**10.9**	**11.3**	**-2.2**	**-1.1**	**--**	**-0.2**	**Nov-11**
Loomis Sayles Emerging Debt & Currencies	176,821,196	3.8		1.9	3.4	10.9	11.3	-2.2	-1.1	--	-0.2	Nov-11
Custom EMD				*1.4*	*2.9*	*9.7*	*6.3*	*-2.6*	*-1.2*	*3.8*	*-0.3*	*Nov-11*
Global Fixed Income	**23,068,990**	**0.5**	**0.0**	**1.8**	**3.5**	**7.3**	**0.7**	**1.4**	**1.5**	**4.7**	**5.4**	**Jul-95**
Loomis Sayles	23,068,990	0.5		1.8	3.5	7.3	0.7	1.4	1.5	4.8	6.1	Nov-99
Citi WGBI				*1.9*	*3.5*	*6.4*	*-2.9*	*-0.1*	*0.0*	*3.4*	*4.3*	*Nov-99*
Total Alternative Assets	**991,314,479**	**21.3**	**24.0**									
Hedge Fund Composite	**331,509,546**	**7.1**	**7.0**	**0.5**	**0.6**	**2.1**	**4.3**	**-0.4**	**3.7**	**1.7**	**3.4**	**Nov-04**
Mesirow Absolute Return Class J	61,197,668	1.3		0.8	0.5	2.0	3.9	-1.6	2.7	0.8	3.1	Nov-04
GAM	53,515,502	1.1		0.4	0.3	1.8	2.7	0.2	3.9	--	0.6	Nov-07
Permal	74,663,534	1.6		0.7	1.2	1.8	4.9	0.4	4.5	--	4.2	Nov-07
Entrust	65,717,252	1.4		0.0	0.4	1.8	2.8	-2.7	2.2	--	1.7	Apr-12
Grosvenor	76,257,233	1.6		0.7	0.7	2.8	7.1	2.1	--	--	4.0	Jul-13
HFRI Fund of Funds Composite Index				*1.1*	*1.4*	*4.3*	*6.0*	*2.0*	*3.9*	*0.9*	*3.2*	*Jul-13*
Real Estate Composite	**431,323,074**	**9.3**	**10.0**	**0.0**	**1.5**	**3.4**	**7.6**	**11.3**	**11.4**	**3.5**	**--**	
Private Equity	**228,481,859**	**4.9**	**7.0**	**0.0**	**1.9**	**3.8**	**6.8**	**6.7**	**6.5**	**5.7**	**--**	
Cash	**17,915,452**	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**1.3**	**Oct-04**

- Real Estate and Private Equity report on a quarterly basis, valuations are as of 03/31/2017.
- Entrust market value and return is preliminary.

Note: Returns are gross of manager fees except for hedge funds and private equity which are net of fees.

Fund Performance Detail

PE/RE Summary

Target Weight	Weight in Fund		Committed Capital	Cumulative Distribution	Contributed Capital	QTR	Last Year	Valuation
					Quarter Ending March 31, 2017			
7.0%	5.0%	Private Equity IRR	$677,465,685	$481,974,711	$533,131,808	1.5%	6.8%	$228,481,859
10.0%	9.4%	Real Estate IRR	$808,877,676	$642,983,190	$738,821,557	1.9%	7.6%	$431,323,074

Information Disclaimer and Reporting Methodology

Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
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Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.