

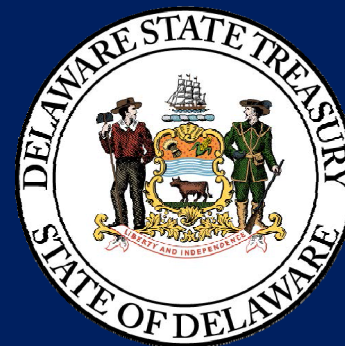
# INVESTMENT PERFORMANCE SUMMARY

## OFFICE OF THE STATE TREASURER & CASH MANAGEMENT POLICY BOARD

December 31, 2017

John Krimmel, CPA, CFA, Partner

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

# INDEX PERFORMANCE SUMMARY AS OF 12/31/2017

	2010	2011	2012	2013	2014	2015	2016	Q1	Q2	Q3	Oct	Nov	Dec	Q4	YTD
<b>Liquidity Custom Index</b>	0.93%	0.58%	0.42%	0.27%	0.27%	0.33%	0.77%	0.18%	0.24%	0.31%	0.06%	0.01%	0.09%	0.16%	0.89%
<b>Reserve Custom Index</b>	3.01%	2.35%	1.51%	0.12%	1.1%	0.86%	1.15%	0.39%	0.42%	0.36%	-0.02%	-0.19%	0.04%	-0.17%	1.00%
<b>Land &amp; Water Custom Index</b>	10.23%	-0.01%	11.29%	14.46%	5.43%	-0.07%	5.71%	4.13%	2.99%	3.24%	1.16%	1.25%	1.00%	3.44%	14.52%
<b>MSCI EM</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	11.4%	6.3%	7.9%	3.5%	0.2%	3.6%	7.4%	37.3%
<b>MSCI EAFE</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	7.2%	6.1%	5.4%	1.5%	1.0%	1.6%	4.2%	25.0%
<b>MSCI ACWI</b>	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	6.9%	4.3%	5.2%	2.1%	1.9%	1.6%	5.7%	24.0%
<b>S&amp;P 500</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	6.1%	3.1%	4.5%	2.3%	3.1%	1.1%	6.6%	21.8%
<b>Russell 1000</b>	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	6.0%	3.1%	4.5%	2.3%	3.0%	1.1%	6.6%	21.7%
<b>Russell 2500</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	3.8%	2.1%	4.7%	1.5%	3.3%	0.3%	5.2%	16.8%
<b>Russell 2000</b>	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	2.5%	2.5%	5.7%	0.9%	2.9%	-0.4%	3.3%	14.6%
<b>BC Global Agg</b>	-5.3%	-5.3%	-4.1%	2.7%	-0.6%	3.3%	2.1%	1.8%	2.6%	1.8%	-0.4%	1.1%	0.3%	1.1%	7.4%
<b>BC US Agg Bond</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	0.8%	1.4%	0.8%	0.1%	-0.1%	0.5%	0.4%	3.5%
<b>BC US Govt/Cred 1-3</b>	2.8%	1.6%	1.3%	0.6%	0.8%	0.7%	1.3%	0.4%	0.3%	0.3%	0.0%	-0.2%	0.0%	-0.2%	0.8%
<b>Alerian MLP</b>	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	3.9%	-6.4%	-3.0%	-4.1%	-1.4%	4.7%	-0.9%	-6.5%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse



December 31, 2017

# MARKET COMMENTARY – DECEMBER 2017

## Market Environment

Equities rounded out a banner year with additional gains on the back of strong earnings and economic growth. Maintaining their lead, emerging market stocks returned 3.6% in December, according to the MSCI EM index, racking up gains of 37.9% in 2017. The S&P 500 was up 1.1% on the month and—setting a new record—was in the black every month of the calendar year.

The Fed raised rates in December, for the third time in 2017, despite inflation remaining below the central bank's target levels. In response, the yield curve continued to flatten with the 10-year unchanged at 2.41% and the 30-year down nine basis points to 2.74%. While the 10-year ended only four basis points lower than at the end of 2016, the 10-2 spread declined to its lowest level in nearly a decade. As has been the story for most of the year, longer-duration fixed income fared well with the Barclays Long Credit Index and Barclays Long Treasury Index up 2.0% and 1.7%, respectively, in December.

As we turn the page to 2018, our views at NEPC remain mostly unchanged. Despite significant run-ups in international equities, we still find non-US stocks attractive relative to domestic equities, given the potential for continued growth in international developed and emerging economies. Within fixed income, we suggest investors shift away from credit risk as spreads have fallen well below median levels in both US investment-grade and high-yield spaces and, as such, future return expectations have declined. We also remind investors of the importance of rebalancing back to target, particularly in light of the recent sustained outperformance of equities.



## TOTAL FUND PERFORMANCE DETAIL-NET OF FEES

	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	2 Yrs (%)	3 Yrs (%)	4 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
<b>Delaware Total Consolidation</b>	<b>1,701,858,733</b>	<b>100.00</b>	<b>0.12</b>	<b>0.16</b>	<b>0.65</b>	<b>1.76</b>	<b>1.48</b>	<b>1.19</b>	<b>1.13</b>	<b>0.87</b>	<b>1.23</b>	<b>1.93</b>	<b>Jan-05</b>
<b>Total Liquidity &amp; Reserve</b>	<b>1,630,554,276</b>	<b>95.81</b>	<b>0.08</b>	<b>0.01</b>	<b>0.37</b>	<b>1.15</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.97</b>	<b>Jan-16</b>
<b>Total Liquidity</b>	<b>772,651,343</b>	<b>45.40</b>	<b>0.08</b>	<b>0.15</b>	<b>0.49</b>	<b>1.12</b>	<b>1.07</b>	<b>0.85</b>	<b>0.72</b>	<b>0.64</b>	<b>0.98</b>	<b>1.74</b>	<b>Jan-05</b>
<i>Liquidity Custom Index</i>			<u>0.09</u>	<u>0.16</u>	<u>0.47</u>	<u>0.89</u>	<u>0.83</u>	<u>0.66</u>	<u>0.57</u>	<u>0.51</u>	<u>0.95</u>	<u>1.75</u>	<i>Jan-05</i>
Over/Under			-0.01	-0.01	0.02	0.23	0.24	0.19	0.15	0.13	0.03	-0.01	
Insight Investment	191,890,456	11.28	0.11	0.16	0.51	1.18	1.02	0.80	0.67	--	--	0.62	Jun-13
PFM Asset Management	194,815,487	11.45	0.07	0.16	0.49	1.12	1.14	0.93	0.82	--	--	0.79	Jun-13
Wells Capital Inv. Liquidity	193,555,716	11.37	0.09	0.19	0.58	1.27	1.18	0.88	0.76	0.68	0.93	4.22	Jan-85
Wilmington Liquidity	192,389,684	11.30	0.06	0.07	0.39	0.92	0.92	0.78	0.64	0.57	1.15	4.27	Jan-85
<b>Total Reserve (Including Operating)</b>	<b>857,902,933</b>	<b>50.41</b>	<b>0.07</b>	<b>-0.11</b>	<b>0.30</b>	<b>1.21</b>	<b>1.30</b>	<b>1.13</b>	<b>1.20</b>	<b>0.86</b>	<b>1.63</b>	<b>2.23</b>	<b>Jan-05</b>
<i>Reserve Custom Index</i>			<u>0.04</u>	<u>-0.17</u>	<u>0.19</u>	<u>1.00</u>	<u>1.07</u>	<u>1.00</u>	<u>1.03</u>	<u>0.84</u>	<u>1.87</u>	<u>2.45</u>	<i>Jan-05</i>
Over/Under			0.03	0.06	0.11	0.21	0.23	0.13	0.17	0.02	-0.24	-0.22	
Chandler Asset Management	104,414,864	6.14	0.06	-0.23	0.19	1.24	1.32	1.15	1.38	--	--	1.07	Jun-13
Federated Investors	146,719,301	8.62	0.08	-0.15	0.20	0.97	1.15	1.15	1.31	--	--	0.96	Jun-13
JPM Intermediate	247,236,114	14.53	0.06	-0.11	0.28	1.21	1.27	1.14	1.10	--	--	1.01	Jun-13
Morgan Stanley	157,273,950	9.24	0.06	-0.12	0.31	1.24	1.26	1.11	1.15	--	--	0.99	Jun-13
Schroder Intermediate	202,258,704	11.88	0.11	-0.02	0.42	1.33	1.42	1.10	1.19	0.92	1.58	3.41	Jul-95
<b>Total Endowment</b>	<b>71,304,457</b>	<b>4.19</b>	<b>0.97</b>	<b>3.63</b>	<b>7.49</b>	<b>16.48</b>	<b>11.44</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.44</b>	<b>Aug-15</b>
<i>Endowment Custom Index</i>			<u>1.00</u>	<u>3.44</u>	<u>6.79</u>	<u>14.52</u>	<u>10.03</u>	<u>6.55</u>	<u>6.27</u>	<u>7.86</u>	<u>4.97</u>	<u>6.89</u>	<i>Aug-15</i>
Over/Under			-0.03	0.19	0.70	1.96	1.41					0.55	
SEI Funds	23,310,027	1.37	1.29	3.88	7.80	17.25	13.08	--	--	--	--	9.02	Aug-15
MSIFT Global Strategist	21,981,360	1.29	0.92	3.46	7.15	16.65	10.98	--	--	--	--	6.63	Aug-15
JP Morgan Diversified	22,570,985	1.33	0.85	4.09	8.52	17.90	11.89	--	--	--	--	7.97	Aug-15
Cash Account	3,442,085	0.20	0.08	0.20	0.38	0.57	0.43	--	--	--	--	0.36	Aug-15

Notes: Net of Fees. Results for periods longer than one year are annualized

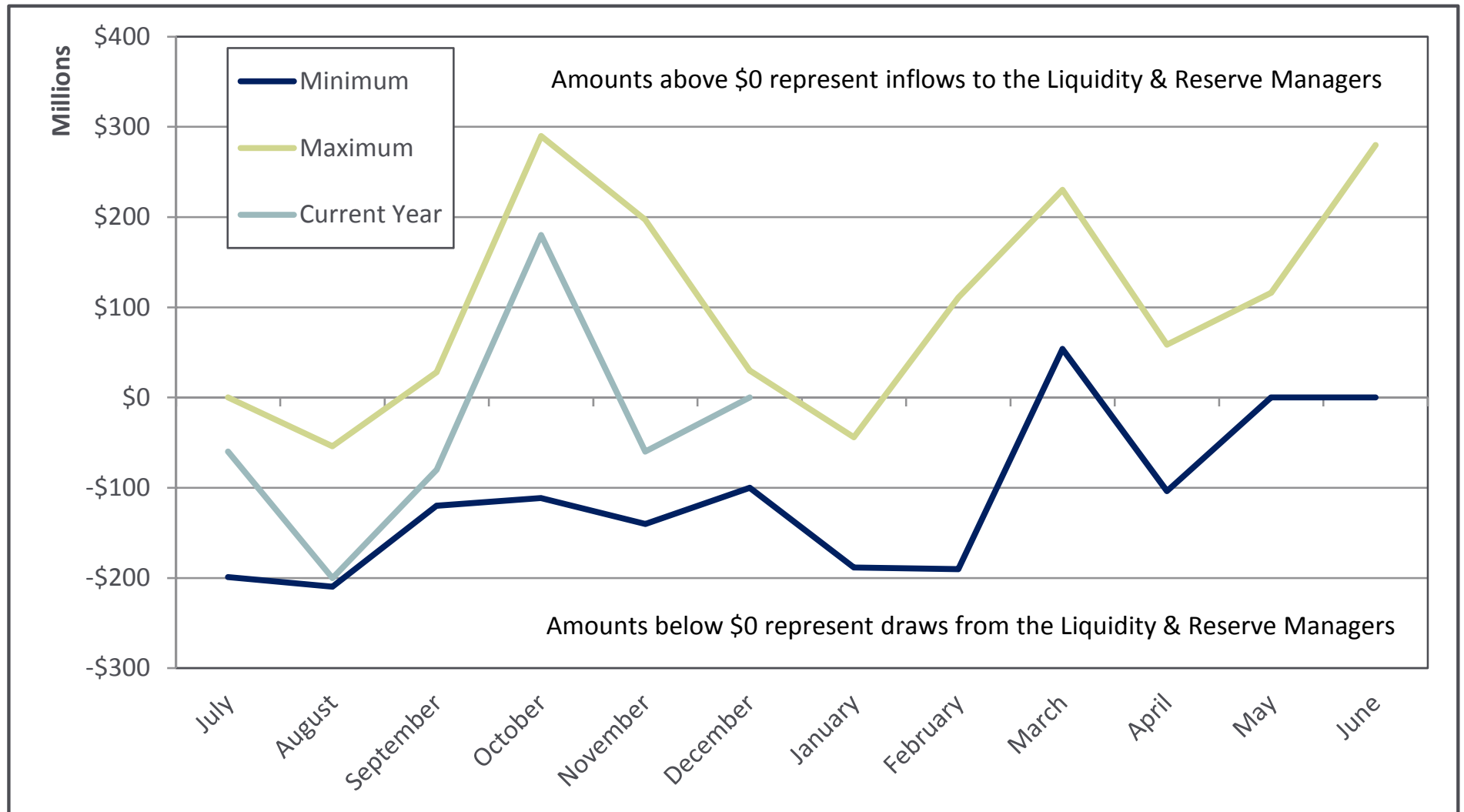
Performance history through 12/2015 is from BNY Mellon. NEPC Performance start date is January 2016. Fiscal Year end is June 30.

Liquidity Custom Index is comprised of 25% BofA Merrill Lynch 1-3 year Govt/Corporate A+ or Better/ 75% 6 Month Treasury Bill.

Reserve Custom Index is comprised of 75% BofA Merrill Lynch 1-5 year Govt/Corporate A+ or Better/ 25% 6 Month Treasury Bill.

L&W Endowment Custom Index is comprised of 60% MSCI World Index/40% Barclays Capital Aggregate.

# CASH FLOWS – FISCAL YEAR 2018



# TOTAL FUND CHANGE IN MARKET VALUE - DECEMBER 31, 2017

## Change in Market Value Month Ending December 31, 2017

	Beginning Market Value	Contributions	Withdrawals	Fees	Income	Unrealized Gain (Loss)	Realized Gain (Loss)	Amortization / Accretion	Ending Market Value
<b>Liquidity Managers</b>									
Insight Investment	\$ 191,670,785	\$ -	\$ -	\$ -	\$ 239,394	\$ (25,851)	\$ (22,068)	\$ 28,196	\$ 191,890,456
PFM Asset Management	\$ 194,680,378	\$ -	\$ -	\$ -	\$ 245,934	\$ (117,025)	\$ (3,235)	\$ 9,435	\$ 194,815,487
Wells Capital Inv. Liquidity	\$ 193,381,242	\$ -	\$ -	\$ -	\$ 237,927	\$ (82,305)	\$ (183)	\$ 19,035	\$ 193,555,716
Wilmington Liquidity	\$ 192,277,724	\$ -	\$ -	\$ -	\$ 197,208	\$ (123,802)	\$ 230	\$ 38,325	\$ 192,389,684
<b>Total Liquidity Managers</b>	<b>\$ 772,010,129</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 920,462</b>	<b>\$ (348,984)</b>	<b>\$ (25,257)</b>	<b>\$ 94,991</b>	<b>\$ 772,651,343</b>
<b>Reserve Managers</b>									
Chandler Asset Management	\$ 104,348,120	\$ -	\$ -	\$ -	\$ 159,299	\$ (87,267)	\$ (1,562)	\$ (3,725)	\$ 104,414,864
Federated Investors	\$ 146,602,633	\$ -	\$ -	\$ -	\$ 193,949	\$ (60,857)	\$ (2,517)	\$ (13,907)	\$ 146,719,301
JPM Intermediate	\$ 247,094,639	\$ -	\$ -	\$ -	\$ 363,725	\$ (218,999)	\$ (3,843)	\$ 592	\$ 247,236,114
Morgan Stanley	\$ 157,180,060	\$ -	\$ -	\$ -	\$ 231,984	\$ (138,329)	\$ (4,657)	\$ 4,893	\$ 157,273,950
Schroder Intermediate	\$ 202,036,343	\$ -	\$ -	\$ -	\$ 321,346	\$ (67,891)	\$ (4,229)	\$ (26,867)	\$ 202,258,703
<b>Total Reserve Managers</b>	<b>\$ 857,261,795</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,270,302</b>	<b>\$ (573,343)</b>	<b>\$ (16,808)</b>	<b>\$ (39,013)</b>	<b>\$ 857,902,933</b>
<b>Land &amp; Water Endowment</b>									
SEI Funds	\$ 23,013,949	\$ -	\$ -	\$ (19,325)	\$ 252,342	\$ (137,904)	\$ 200,965	\$ -	\$ 23,310,027
MSIFT Global Strategist	\$ 21,781,319	\$ -	\$ -	\$ -	\$ 254,551	\$ (1,144,117)	\$ 1,089,608	\$ -	\$ 21,981,360
JP Morgan Diversified	\$ 22,381,399	\$ -	\$ -	\$ -	\$ 142,982	\$ (1,012,503)	\$ 1,059,107	\$ -	\$ 22,570,985
Cash Account	\$ 3,439,407	\$ -	\$ -	\$ -	\$ 2,678	\$ -	\$ -	\$ -	\$ 3,442,085
<b>Total Land &amp; Water Endowment</b>	<b>\$ 70,616,074</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (19,325)</b>	<b>\$ 652,553</b>	<b>\$ (2,294,524)</b>	<b>\$ 2,349,680</b>	<b>\$ -</b>	<b>\$ 71,304,458</b>
<b>Total</b>	<b>\$ 1,699,887,998</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (19,325)</b>	<b>\$ 2,843,317</b>	<b>\$ (3,216,851)</b>	<b>\$ 2,307,615</b>	<b>\$ 55,978</b>	<b>\$ 1,701,858,733</b>

### Footnotes:

Values provided by Northern Trust and are reconciled to the audited custodian reports.

Income is a product of income received during the month plus accrued income.

Numbers may not add due to rounding.



# TOTAL FUND CHANGE IN MARKET VALUE - FISCAL YEAR-TO-DATE

## Change in Market Value Fiscal Year-to-Date Through December 31, 2017

	Beginning Market Value	Contributions	Withdrawals	Fees	Income	Unrealized Gain (Loss)	Realized Gain (Loss)	Amortization / Accretion	Ending Market Value
<b>Liquidity Managers</b>									
Insight Investment	\$ 245,868,623	\$ 45,000,000	\$ (100,000,000)	\$ (91,150)	\$ 1,459,886	\$ (181,441)	\$ (168,744)	\$ 3,281	\$ 191,890,456
PFM Asset Management	\$ 248,829,522	\$ 45,000,000	\$ (100,000,000)	\$ (82,088)	\$ 1,460,580	\$ (367,428)	\$ (54,045)	\$ 28,946	\$ 194,815,487
Wells Capital Inv. Liquidity	\$ 247,394,630	\$ 45,000,000	\$ (100,000,000)	\$ (81,267)	\$ 1,561,271	\$ (222,174)	\$ (77,942)	\$ (18,802)	\$ 193,555,716
Wilmington Liquidity	\$ 246,587,584	\$ 45,000,000	\$ (100,000,000)	\$ (86,072)	\$ 1,074,836	\$ (417,720)	\$ (34,453)	\$ 265,509	\$ 192,389,684
<b>Total Liquidity Managers</b>	<b>\$ 988,680,359</b>	<b>\$ 180,000,000</b>	<b>\$ (400,000,000)</b>	<b>\$ (340,577)</b>	<b>\$ 5,556,572</b>	<b>\$ (1,188,763)</b>	<b>\$ (335,184)</b>	<b>\$ 278,934</b>	<b>\$ 772,651,343</b>
<b>Reserve Managers</b>									
Chandler Asset Management	\$ 104,214,660	\$ -	\$ -	\$ (43,419)	\$ 929,141	\$ (642,936)	\$ (17,879)	\$ (24,703)	\$ 104,414,864
Federated Investors	\$ 146,429,584	\$ -	\$ -	\$ (81,241)	\$ 1,101,220	\$ (627,042)	\$ (14,582)	\$ (88,636)	\$ 146,719,301
JPM Intermediate	\$ 246,533,929	\$ -	\$ -	\$ (113,423)	\$ 2,083,088	\$ (1,211,305)	\$ 18,746	\$ (74,920)	\$ 247,236,114
Morgan Stanley	\$ 156,784,983	\$ 62	\$ -	\$ (69,634)	\$ 1,354,454	\$ (781,876)	\$ (17,039)	\$ 3,001	\$ 157,273,950
Schroder Intermediate	\$ 201,408,815	\$ -	\$ -	\$ (111,852)	\$ 1,693,844	\$ (616,613)	\$ (54,226)	\$ (61,265)	\$ 202,258,704
<b>Total Reserve Managers</b>	<b>\$ 855,371,971</b>	<b>\$ 62</b>	<b>\$ -</b>	<b>\$ (419,569)</b>	<b>\$ 7,161,746</b>	<b>\$ (3,879,773)</b>	<b>\$ (84,979)</b>	<b>\$ (246,523)</b>	<b>\$ 857,902,933</b>
<b>Land &amp; Water Endowment</b>									
SEI Funds	\$ 22,788,788	\$ -	\$ (1,178,998)	\$ (39,005)	\$ 414,863	\$ 1,049,351	\$ 275,026	\$ -	\$ 23,310,027
MSIFT Global Strategist	\$ 21,618,353	\$ -	\$ (1,117,201)	\$ -	\$ 257,238	\$ 40,638	\$ 1,182,330	\$ -	\$ 21,981,360
JP Morgan Diversified	\$ 21,920,165	\$ -	\$ (1,133,943)	\$ -	\$ 262,440	\$ 421,036	\$ 1,101,287	\$ -	\$ 22,570,985
Cash Account	\$ 1,407	\$ -	\$ 3,314,958	\$ 113,777	\$ 11,943	\$ -	\$ -	\$ -	\$ 3,442,085
<b>Total Land &amp; Water Endowment</b>	<b>\$ 66,328,713</b>	<b>\$ -</b>	<b>\$ (115,184)</b>	<b>\$ 74,772</b>	<b>\$ 946,484</b>	<b>\$ 1,511,026</b>	<b>\$ 2,558,644</b>	<b>\$ -</b>	<b>\$ 71,304,457</b>
<b>Total</b>	<b>\$ 1,910,381,043</b>	<b>\$ 180,000,062</b>	<b>\$ (400,115,184)</b>	<b>\$ (685,374)</b>	<b>\$ 13,664,803</b>	<b>\$ (3,557,510)</b>	<b>\$ 2,138,480</b>	<b>\$ 32,411</b>	<b>\$ 1,701,858,733</b>

### Footnotes:

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Numbers may not add due to rounding.



# 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.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

## 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.

