



Wyoming State Treasurer's Office

Investment Performance Analysis

Period Ended: March 31, 2019



RVK Honored to Receive 2ND Greenwich *Quality Leader* Award

- In 2018, Greenwich Associates* conducted interviews with 1,128 senior professionals of large plan sponsors and ranked opinions of their investment consulting relationships on a series of key metrics, including, but not limited to:
 - Understanding of Client Goals and Objectives
 - Advice on Long-term Asset Allocation and Liability Issues
 - Proactive Advice and Innovative Ideas
 - Credibility with Boards and/or Investment Committees
 - Knowledge of Investment Managers
 - Advice on DC Plan Structure and Design
 - Client Satisfaction with Manager Recommendations
 - Responsiveness to Client Requests and Needs
 - Competitive Fees
- For a 2nd consecutive year, RVK is 1 of 3 firms among large US consultants to receive this award.



As a valued client, we are humbled by your continued confidence and thankful for your support. From all of us here at RVK, thank you for the opportunity to serve you!

*Greenwich Associates is the leading provider of global market intelligence and advisory services to the financial services industry. They conduct an annual survey of institutional investors whereby approx. 1,100 respondents rank their respective investment consulting relationships on key metrics on a scale from 1 (poor) to 5 (excellent). The award is based upon Greenwich Associates' 2018 US Institutional Investors study.

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General Comments

- Through this reporting period, Wyoming State Treasurer's Office has committed a total of \$1,598,044,780 to 13 non-marketable alternative investments.
- The average age of active investments (based upon vintage year and weighted by commitment) was 7.53 years.
- A total of \$1,844,407,333 has been called or otherwise contributed to date.
- Distributions have totaled \$1,527,619,306 since plan inception.
- The residual estimated value of interests in these partnerships/investments is \$1,073,365,565.
- Since inception net performance for the investments are as follows:
 - Annualized since-inception estimated Internal Rate of Return (IRR) of 11.19%.
 - Were an investment into the benchmark index (S&P 500 Index (Cap Wtd)) ("Index IRR") made with the identical cash-flow pattern, the resulting return would be equal to 9.28% indicating roughly 190 basis points of annualized out-performance.
 - For every \$1 paid into the portfolio, \$1.41 has been returned as a distribution or is held in residual value (multiple on invested capital = 1.41x).

Hedge Funds - Opportunistic

- Hedge Funds - Opportunistic funds account for 28.16% of commitments, 24.40% of contributed funds, 23.50% of distributed funds, and 20.67% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 8.43%
 - S&P 500 Index (Cap Wtd) IRR of 10.98%
 - A multiple on invested capital of 1.29x.

Private Equity - Multi-Stage

- Private Equity - Multi-Stage funds account for 41.17% of commitments, 50.96% of contributed funds, 57.68% of distributed funds, and 50.88% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 13.21%
 - S&P 500 Index (Cap Wtd) IRR of 7.79%
 - A multiple on invested capital of 1.52x.

Private Equity - Venture

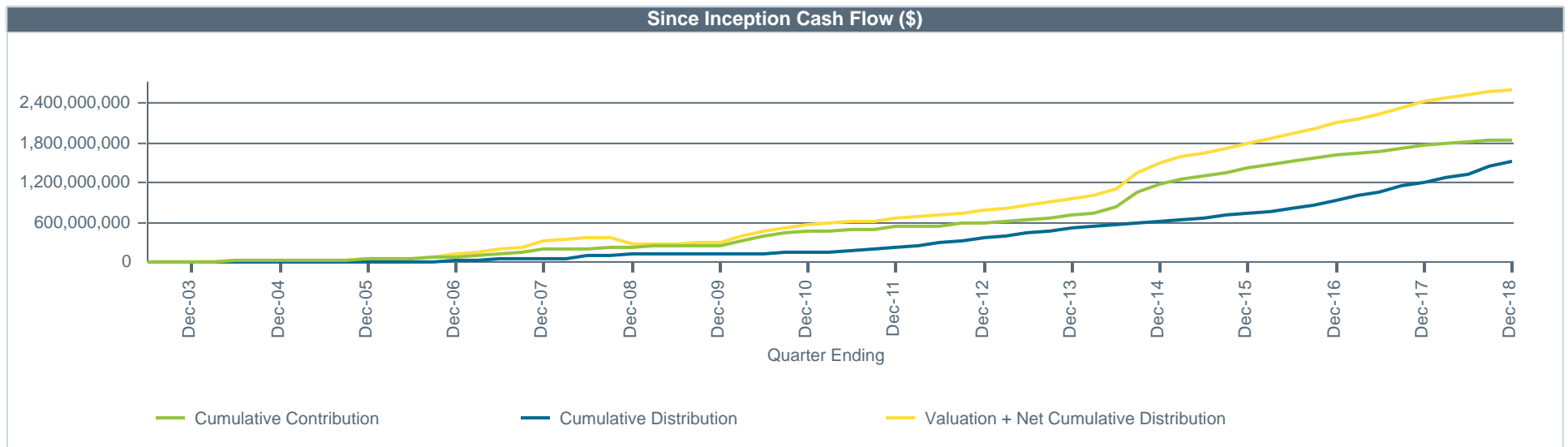
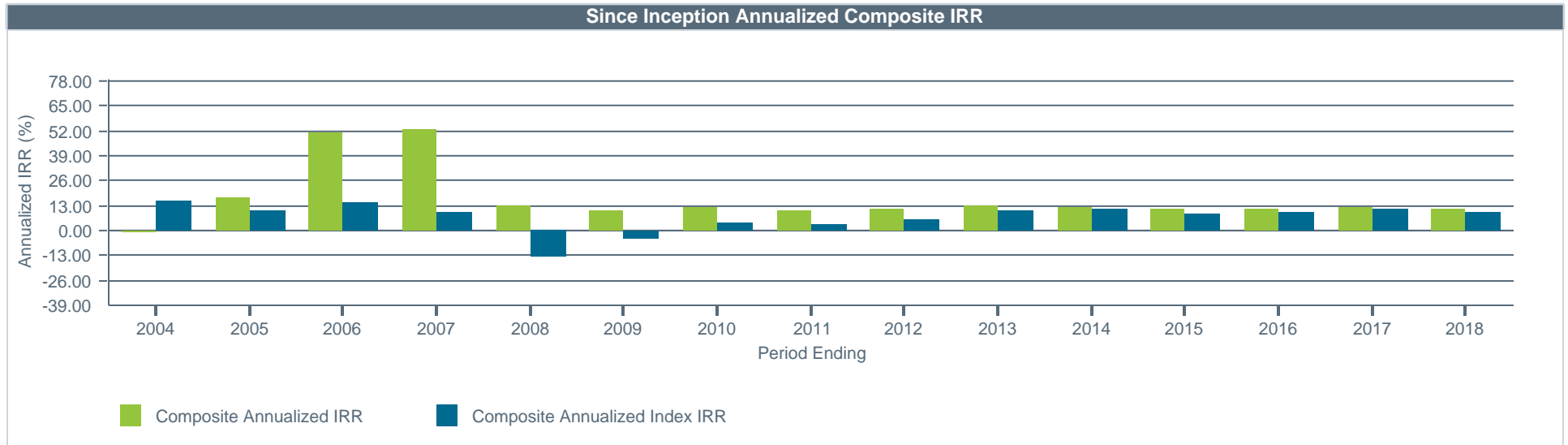
- Private Equity - Venture funds account for 0.63% of commitments, 0.54% of contributed funds, 0.96% of distributed funds, and 0.35% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 9.31%
 - S&P 500 Index (Cap Wtd) IRR of 12.88%
 - A multiple on invested capital of 1.85x.

Real Estate - Opportunistic

- Real Estate - Opportunistic funds account for 9.39% of commitments, 8.82% of contributed funds, 4.83% of distributed funds, and 14.41% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 13.78%
 - S&P 500 Index (Cap Wtd) IRR of 8.08%
 - A multiple on invested capital of 1.40x.

Real Estate - Value Added

- Real Estate - Value Added funds account for 20.66% of commitments, 15.28% of contributed funds, 13.03% of distributed funds, and 13.69% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 6.36%
 - S&P 500 Index (Cap Wtd) IRR of 10.73%
 - A multiple on invested capital of 1.23x.



Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. This report may contain valuations for investments that are preliminary estimates of valuation as of the date of reporting which reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated.



Alternative Investment Asset Class Composite Performance

Asset Class	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Asset Class IRR (%)	Index IRR (%)	Asset Class Multiple
Hedge Funds - Opportunistic	450,000,000	450,000,000	358,948,121	221,817,873	8.43	10.98	1.29
Private Equity - Multi-Stage	657,950,000	939,927,659	881,104,989	546,170,198	13.21	7.79	1.52
Private Equity - Venture	10,000,000	10,000,000	14,739,281	3,799,738	9.31	12.88	1.85
Real Estate - Opportunistic	150,000,000	162,716,522	73,788,778	154,631,367	13.78	8.08	1.40
Real Estate - Value Added	330,094,780	281,763,152	199,038,137	146,946,389	6.36	10.73	1.23
	1,598,044,780	1,844,407,333	1,527,619,306	1,073,365,565	11.19	9.28	1.41

Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Asset Class IRR is the annualized since-inception net internal rate for the indicated fund or composite. This report may contain valuations for investments that are preliminary estimates of valuation as of the date of reporting which reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Asset Class Multiple is the since inception sum of distributions and valuation divided by paid in capital.

Average Commitment-weighted Active Investment Age (in years): 7.53

Vintage Year	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Vintage Year IRR (%)	Index IRR (%)	Vintage Year Multiple	Cumulative Multiple
2003	257,950,000	599,864,481	758,051,866	212,413,552	13.36	7.63	1.62	1.62
2006	25,000,000	25,000,000	29,534,438	3,916,141	3.64	9.56	1.34	1.61
2007	10,000,000	9,647,233	14,137,084	20,045	8.58	11.09	1.47	1.60
2009	150,000,000	150,000,000	199,748,121	0	12.54	13.54	1.33	1.55
2010	102,225,000	87,930,692	89,417,299	50,724,626	10.10	12.57	1.59	1.56
2013	652,869,780	626,988,878	275,699,503	537,219,827	11.15	8.46	1.30	1.45
2014	300,000,000	300,000,000	159,200,000	221,817,873	6.47	8.77	1.27	1.42
2016	100,000,000	44,976,049	1,830,996	47,253,501	6.38	4.50	1.09	1.41
TOTAL	1,598,044,780	1,844,407,333	1,527,619,306	1,073,365,565	11.19	9.28		1.41

Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Vintage Year IRR is the annualized since-inception net internal rate for the indicated fund or composite. This report may contain valuations for investments that are preliminary estimates of valuation as of the date of reporting which reflect the estimated impact of subsequent net cash contributions/distributions. These figures may be used in calculations contained in this report. Vintage Year Multiple is the since inception sum of distributions and valuation divided by paid in capital. Cumulative Multiple is the since inception sum of distributions and valuation divided by paid in capital for all investments through the indicated vintage year.



Wyoming State Treasurer's Office
Alternative Investment Private Equity Fund Performance Listing

As of December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	Paid In Capital	Distributions - Total	Distributions - Gain/Income	Distributions - ROC	Valuation	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Access Venture Partners II, LP	2006	Private Equity - Venture	\$10,000,000	\$10,000,000	\$14,739,281	\$13,275,738	\$1,463,543	\$3,799,738	9.31	2nd	12.88	1.85
Cheyenne Capital Fund, LP	2003	Private Equity - Multi-Stage	\$257,950,000	\$599,864,481	\$758,051,866	\$21,219,215	\$736,832,651	\$212,413,552 *	13.36	3rd	7.63	1.62
Hamilton Lane Wyoming Nowood Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$200,863,178	\$95,953,123	\$21,894,077	\$74,059,046	\$147,357,397 *	10.59	3rd	8.39	1.21
Neuberger Berman Sauger Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$139,200,000	\$27,100,000	\$0	\$27,100,000	\$186,399,249	13.87	3rd	8.32	1.53
TOTAL			\$667,950,000	\$949,927,659	\$895,844,270	\$56,389,030	\$839,455,240	\$549,969,936	13.12		7.95	1.52

Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Thomson Reuters.

Cheyenne Capital Fund valuations set forth herein could be materially different once underlying investments are realized. Market conditions at the time of exit could be substantially different than at the reporting period, resulting in valuations different than those represented above. Fund valuations shown above may differ from the traditional investment performance report due to the exclusion of assets held in cash. Non-recallable return of capital distributions are included in Distribution - Gain/Income as they do not reduce the remaining fund commitment. Paid In Capital is adjusted for closing true-ups and closing fee remittances.

Wyoming State Treasurer's Office
Alternative Investment Real Estate Fund Performance Listing

As of December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	Paid In Capital	Distributions - Total	Distributions - Gain/Income	Distributions - ROC	Valuation	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Cornerstone Core Mortgage Fund I	2010	Real Estate - Value Added	\$27,225,000	\$25,235,654	\$29,252,612	\$24,460,243	\$4,792,369	\$4,699,131	6.66	N/A	11.22	1.35
Heitman Value Partners II	2007	Real Estate - Value Added	\$10,000,000	\$9,647,233	\$14,137,084	\$6,342,696	\$7,794,388	\$20,045	8.58	N/A	7.58	1.47
M&G Real Estate Debt Fund III	2013	Real Estate - Value Added	\$102,869,780	\$124,209,178	\$78,857,602	\$8,392,224	\$70,465,378	\$48,831,814	1.38	N/A	8.62	1.03
Northwood Real Estate Partners (Series IV)	2013	Real Estate - Opportunistic	\$150,000,000	\$162,716,522	\$73,788,778	\$32,961,534	\$40,827,244	\$154,631,367	13.78	N/A	9.18	1.40
SC Core Fund	2016	Real Estate - Value Added	\$100,000,000	\$44,976,049	\$1,830,996	\$1,595,727	\$235,269	\$47,253,501	6.38	N/A	7.37	1.09
TA Realty VIII	2006	Real Estate - Value Added	\$15,000,000	\$15,000,000	\$14,795,157	\$1,450,837	\$13,344,320	\$116,403	-0.07	N/A	6.42	0.99
WestRiver RE Finance Fund	2010	Real Estate - Value Added	\$75,000,000	\$62,695,038	\$60,164,687	\$26,167,381	\$33,997,306	\$46,025,495	11.45	N/A	10.47	1.69
TOTAL			\$480,094,780	\$444,479,674	\$272,826,915	\$101,370,642	\$171,456,274	\$301,577,756	8.48		9.21	1.29

M&G commitment is converted using the noon New York City Federal exchange rate as of the report date. Index IRR represents the dollar-weighted returns calculated using the NCREIF Property Index assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Thomson Reuters.

Fund valuations shown above may differ from the traditional investment performance report due to the exclusion of assets held in cash. Non-recallable return of capital distributions are included in Distribution - Gain/Income as they do not reduce the remaining fund commitment. Paid In Capital is adjusted for closing true-ups and closing fee remittances.

Wyoming State Treasurer's Office
 Alternative Investment Diversified Hedge Funds Fund Performance Listing

As of December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	Paid In Capital	Distributions - Total	Distributions - Gain/Income	Distributions - ROC	Valuation	Fund IRR (%)	Quartile	Index IRR (%)	Fund Multiple
Grosvenor Silvery Lupine Fund, LLC	2014	Hedge Funds - Opportunistic	\$300,000,000	\$300,000,000	\$159,200,000	\$30,210,281	\$128,989,719	\$221,817,873	6.47	N/A	8.77	1.27
Grosvenor Global Recovery Fund, Ltd.	2009	Hedge Funds - Opportunistic	\$150,000,000	\$150,000,000	\$199,748,121	\$47,985,542	\$151,762,578	\$0	12.54	N/A	13.54	1.33
TOTAL			\$450,000,000	\$450,000,000	\$358,948,121	\$78,195,823	\$280,752,298	\$221,817,873	8.43		10.98	1.29

Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wtd) assuming an index investment with the same cash flow timing. IRRs are shown only for investments with one year or more of cash flows and for which an accurate IRR could be calculated. Applicable IRRs are marked with 'N/M' for not material. Fund IRR is the annualized since-inception net internal rate for the indicated fund or composite. Fund Multiple is the since inception sum of distributions and valuation divided by paid in capital. Quartile data is based on information provided by Thomson Reuters.

Fund valuations shown above may differ from the traditional investment performance report due to the exclusion of assets held in cash. Valuation shown for Grosvenor Silvery Lupine Fund will differ from the traditional investment performance report, as the valuation reflected therein is not on a one-quarter lag due to the nature of this particular investment. Non-recallable return of capital distributions are included in Distribution - Gain/Income as they do not reduce the remaining fund commitment. Paid In Capital is adjusted for closing true-ups and closing fee remittances. Grosvenor Global Recovery Fund paid its final distribution in June 2015.

Wyoming State Treasurer's Office
Alternative Investment Private Equity Fund Performance Listing

As of March 31, 2019

Fund Name	Vintage	Asset Class	Commitment	As of 12/31/2018			Quarter To Date Ending 03/31/2019		
				Paid In Capital	Distributions - Total	Valuation	Paid In Capital	Distributions - Total	Valuation
Access Venture Partners II, LP	2006	Private Equity - Venture	\$10,000,000	\$10,000,000	\$14,739,281	\$3,799,738	\$0	\$0	\$3,799,738 *
Cheyenne Capital Fund, LP	2003	Private Equity - Multi-Stage	\$257,950,000	\$599,864,481	\$758,051,866	\$212,413,552 *	\$0	\$0	\$212,415,173 *
Hamilton Lane Wyoming Nowood Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$200,863,178	\$95,953,123	\$147,357,397 *	\$4,080,296	\$5,324,622	\$146,345,839 *
Neuberger Berman Sauger Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$139,200,000	\$27,100,000	\$186,399,249	\$0	\$0	\$186,399,250 *
TOTAL			\$667,950,000	\$949,927,659	\$895,844,270	\$549,969,936	\$4,080,296	\$5,324,622	\$548,960,000

Cheyenne Capital Fund valuations set forth herein could be materially different once underlying investments are realized. Market conditions at the time of exit could be substantially different than at the reporting period, resulting in valuations different than those represented above. Paid In Capital is adjusted for closing true-ups and closing fee remittances. Expense Contributions included in Paid In Capital and Income/Gain Distributions included in Distributions - Total are not reflected in preliminary valuations. All valuations shown for fiscal year-end are finalized and include unrealized appreciation. Cheyenne Capital Fund cash flows for the quarter ending 03/31/2019 are currently unavailable.

Wyoming State Treasurer's Office
Alternative Investment Real Estate Fund Performance Listing

As of March 31, 2019

Fund Name	Vintage	Asset Class	Commitment	As of 12/31/2018			Quarter To Date Ending 03/31/2019		
				Paid In Capital	Distributions - Total	Valuation	Paid In Capital	Distributions - Total	Valuation
Cornerstone Core Mortgage Fund I	2010	Real Estate - Value Added	\$27,225,000	\$25,235,654	\$29,252,612	\$4,699,131	\$0	\$3,002,773	\$4,889,539 *
Heitman Value Partners II	2007	Real Estate - Value Added	\$10,000,000	\$9,647,233	\$14,137,084	\$20,045	\$0	\$0	\$20,045 *
M&G Real Estate Debt Fund III	2013	Real Estate - Value Added	\$102,869,780	\$124,209,178	\$78,857,602	\$48,831,814	\$0	\$1,783,537	\$50,396,856
Northwood Real Estate Partners (Series IV)	2013	Real Estate - Opportunistic	\$150,000,000	\$162,716,522	\$73,788,778	\$154,631,367	\$1,227,596	\$7,037,435	\$148,690,820 *
SC Core Fund	2016	Real Estate - Value Added	\$100,000,000	\$44,976,049	\$1,830,996	\$47,253,501	\$23,005,537	\$693,111	\$70,260,866 *
TA Realty VIII	2006	Real Estate - Value Added	\$15,000,000	\$15,000,000	\$14,795,157	\$116,403	\$0	\$77,494	\$39,114 *
WestRiver RE Finance Fund	2010	Real Estate - Value Added	\$75,000,000	\$62,695,038	\$60,164,687	\$46,025,495	\$0	\$79,898	\$47,429,449
TOTAL			\$480,094,780	\$444,479,674	\$272,826,915	\$301,577,756	\$24,233,133	\$12,674,248	\$321,726,689

M&G commitment is converted using the noon New York City Federal exchange rate on the date of the report, while M&G cash flows are converted on the date of the flow. Valuations shown for M&G, WestRiver, and Cornerstone as of the current quarter-end include a distribution payable in the month following quarter-end.

Paid In Capital is adjusted for closing true-ups and closing fee remittances. Expense Contributions included in Paid In Capital and Income/Gain Distributions included in Distributions - Total are not reflected in preliminary valuations. All valuations shown for fiscal year-end are finalized and include unrealized appreciation.

Wyoming State Treasurer's Office
Alternative Investment Diversified Hedge Funds Fund Performance Listing

As of March 31, 2019

Fund Name	Vintage	Asset Class	Commitment	As of 12/31/2018			Quarter To Date Ending 03/31/2019		
				Paid In Capital	Distributions - Total	Valuation	Paid In Capital	Distributions - Total	Valuation
Grosvenor Silvery Lupine Fund, LLC	2014	Hedge Funds - Opportunistic	\$300,000,000	\$300,000,000	\$159,200,000	\$221,817,873	\$0	\$32,900,000	\$193,882,964 *
Grosvenor Global Recovery Fund, Ltd.	2009	Hedge Funds - Opportunistic	\$150,000,000	\$150,000,000	\$199,748,121	\$0	\$0	\$0	\$0
TOTAL			\$450,000,000	\$450,000,000	\$358,948,121	\$221,817,873	\$0	\$32,900,000	\$193,882,964

Paid In Capital is adjusted for closing true-ups and closing fee remittances. Expense Contributions included in Paid In Capital and Income/Gain Distributions included in Distributions - Total are not reflected in preliminary valuations. All valuations shown for fiscal year-end are finalized and include unrealized appreciation. Grosvenor Global Recovery Fund paid its final distribution in June 2015.

PORTLAND

CHICAGO

NEW YORK

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