



Alternative Investment Supplemental Disclosure

Wyoming State Treasurer's Office

Period Ended: December 31, 2018



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General Comments

- Through this reporting period, Wyoming State Treasurer's Office has committed a total of \$1,600,382,180 to 13 non-marketable alternative investments.
- The average age of active investments (based upon vintage year and weighted by commitment) was 7.27 years.
- A total of \$1,831,805,792 has been called or otherwise contributed to date.
- Distributions have totaled \$1,458,526,154 since plan inception.
- The residual estimated value of interests in these partnerships/investments is \$1,130,173,446.
- Since inception net performance for the investments are as follows:
 - Annualized since-inception estimated Internal Rate of Return (IRR) of 11.51%.
 - 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 11.33% indicating roughly 17 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 28.12% of commitments, 24.57% of contributed funds, 23.27% of distributed funds, and 21.58% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 8.81%
 - S&P 500 Index (Cap Wtd) IRR of 13.59%
 - A multiple on invested capital of 1.30x.

Private Equity - Multi-Stage

- Private Equity - Multi-Stage funds account for 41.11% of commitments, 50.75% of contributed funds, 57.24% of distributed funds, and 52.14% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 13.61%
 - S&P 500 Index (Cap Wtd) IRR of 9.19%
 - A multiple on invested capital of 1.53x.

Private Equity - Venture

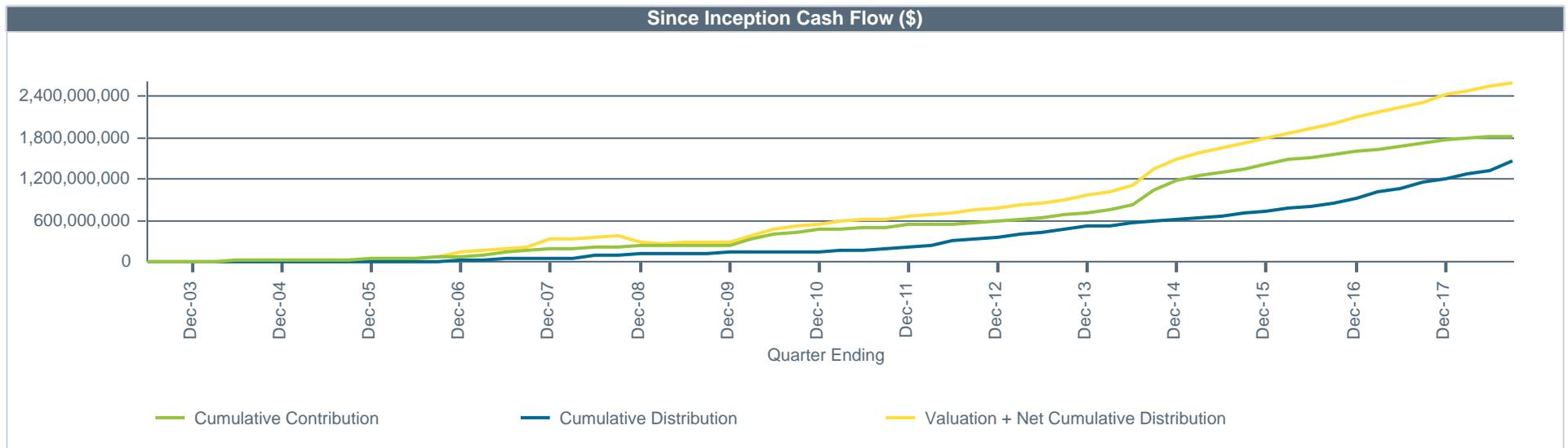
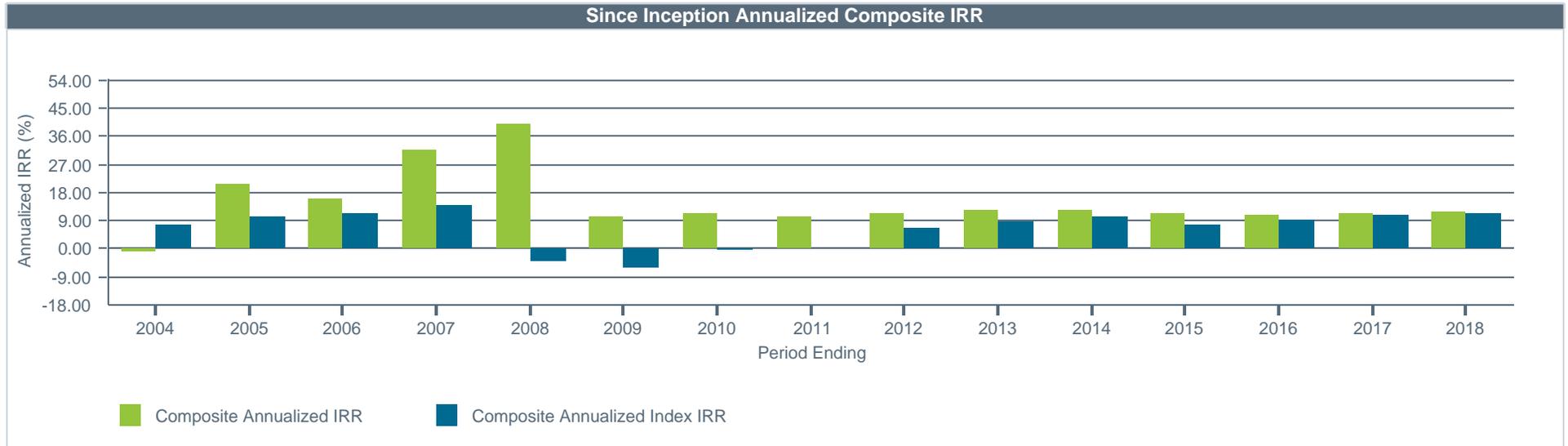
- Private Equity - Venture funds account for 0.62% of commitments, 0.55% of contributed funds, 1.01% of distributed funds, and 0.41% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 9.99%
 - S&P 500 Index (Cap Wtd) IRR of 13.87%
 - A multiple on invested capital of 1.94x.

Real Estate - Opportunistic

- Real Estate - Opportunistic funds account for 9.37% of commitments, 8.76% of contributed funds, 4.91% of distributed funds, and 13.02% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 13.34%
 - S&P 500 Index (Cap Wtd) IRR of 12.73%
 - A multiple on invested capital of 1.36x.

Real Estate - Value Added

- Real Estate - Value Added funds account for 20.77% of commitments, 15.38% of contributed funds, 13.57% of distributed funds, and 12.85% of reported residual value.
- Pooled portfolio since inception performance is as follows:
 - Annualized since-inception IRR of 6.31%
 - S&P 500 Index (Cap Wtd) IRR of 13.35%
 - A multiple on invested capital of 1.22x.



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	339,348,121	243,884,437	8.81	13.59	1.30
Private Equity - Multi-Stage	657,950,000	929,690,290	834,905,111	589,253,314	13.61	9.19	1.53
Private Equity - Venture	10,000,000	10,000,000	14,739,281	4,623,887	9.99	13.87	1.94
Real Estate - Opportunistic	150,000,000	160,406,369	71,617,404	147,204,348	13.34	12.73	1.36
Real Estate - Value Added	332,432,180	281,709,133	197,916,237	145,207,461	6.31	13.35	1.22
	1,600,382,180	1,831,805,792	1,458,526,154	1,130,173,446	11.51	11.33	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): 7.27

Vintage Year	Commitment (\$)	Paid In Capital (\$)	Distributions (\$)	Valuation (\$)	Vintage Year IRR (%)	Index IRR (%)	Vintage Year Multiple	Cumulative Multiple
2003	257,950,000	598,176,053	728,529,604	243,356,021	13.56	7.93	1.62	1.62
2006	25,000,000	25,000,000	29,388,059	4,893,315	3.95	10.56	1.37	1.61
2007	10,000,000	9,647,233	14,137,084	17,473	8.58	11.81	1.47	1.61
2009	150,000,000	150,000,000	199,748,121	0	12.54	14.88	1.33	1.56
2010	102,225,000	87,930,692	89,171,250	49,703,466	10.10	14.64	1.58	1.56
2013	655,207,180	616,154,030	256,121,041	542,952,543	11.79	13.65	1.30	1.45
2014	300,000,000	300,000,000	139,600,000	243,884,437	6.94	12.34	1.28	1.42
2016	100,000,000	44,897,784	1,830,996	45,366,191	4.38	18.51	1.05	1.41
TOTAL	1,600,382,180	1,831,805,792	1,458,526,154	1,130,173,446	11.51	11.33		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 September 30, 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	\$4,623,887	9.99	2nd	13.87	1.94
Cheyenne Capital Fund, LP	2003	Private Equity - Multi-Stage	\$257,950,000	\$598,176,053	\$728,529,604	\$21,219,215	\$707,310,389	\$243,356,021	13.56	3rd	7.93	1.62
Hamilton Lane Wyoming Nowood Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$192,314,237	\$87,275,507	\$17,859,267	\$69,416,240	\$147,439,717	11.48	3rd	14.45	1.22
Neuberger Berman Sauger Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$139,200,000	\$19,100,000	\$0	\$19,100,000	\$198,457,576	15.61	3rd	13.57	1.56
TOTAL			\$667,950,000	\$939,690,290	\$849,644,392	\$52,354,220	\$797,290,172	\$593,877,201	13.53		9.33	1.54

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 September 30, 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	\$29,166,360	\$24,373,991	\$4,792,369	\$4,771,248	6.70	N/A	11.34	1.34
Heitman Value Partners II	2007	Real Estate - Value Added	\$10,000,000	\$9,647,233	\$14,137,084	\$6,342,696	\$7,794,388	\$17,473	8.58	N/A	7.58	1.47
M&G Real Estate Debt Fund III	2013	Real Estate - Value Added	\$105,207,180	\$124,233,424	\$78,128,130	\$8,392,224	\$69,735,906	\$49,850,902	1.56	N/A	8.82	1.03
Northwood Real Estate Partners (Series IV)	2013	Real Estate - Opportunistic	\$150,000,000	\$160,406,369	\$71,617,404	\$30,829,410	\$40,787,994	\$147,204,348	13.34	N/A	9.42	1.36
SC Core Fund	2016	Real Estate - Value Added	\$100,000,000	\$44,897,784	\$1,830,996	\$1,595,727	\$235,269	\$45,366,191	4.38	N/A	7.74	1.05
TA Realty VIII	2006	Real Estate - Value Added	\$15,000,000	\$15,000,000	\$14,648,778	\$1,450,837	\$13,197,941	\$269,428	-0.06	N/A	6.43	0.99
WestRiver RE Finance Fund	2010	Real Estate - Value Added	\$75,000,000	\$62,695,038	\$60,004,891	\$26,007,585	\$33,997,306	\$44,932,218	11.45	N/A	10.61	1.67
TOTAL			\$482,432,180	\$442,115,502	\$269,533,641	\$98,992,469	\$170,541,172	\$292,411,809	8.26		9.36	1.27

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 September 30, 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	\$139,600,000	\$25,551,823	\$114,048,177	\$243,884,437	6.94	N/A	12.34	1.28
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	14.88	1.33
TOTAL			\$450,000,000	\$450,000,000	\$339,348,121	\$73,537,366	\$265,810,755	\$243,884,437	8.81		13.59	1.30

Index IRR represents the dollar-weighted returns calculated using the S&P 500 Index (Cap Wid) 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 December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	As of 09/30/2018			Quarter To Date Ending 12/31/2018		
				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	\$4,623,887	\$0	\$0	\$4,623,887 *
Cheyenne Capital Fund, LP	2003	Private Equity - Multi-Stage	\$257,950,000	\$598,176,053	\$728,529,604	\$243,356,021	\$0	\$0	\$243,366,328 *
Hamilton Lane Wyoming Nowood Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$192,314,237	\$87,275,507	\$147,439,717	\$8,548,941	\$8,677,616	\$147,358,461 *
Neuberger Berman Sauger Fund, LP	2013	Private Equity - Multi-Stage	\$200,000,000	\$139,200,000	\$19,100,000	\$198,457,576	\$0	\$8,000,000	\$190,458,056 *
TOTAL			\$667,950,000	\$939,690,290	\$849,644,392	\$593,877,201	\$8,548,941	\$16,677,616	\$585,806,732

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 12/31/2018 are currently unavailable.

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

As of December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	As of 09/30/2018			Quarter To Date Ending 12/31/2018		
				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	\$29,166,360	\$4,771,248	\$0	\$86,253	\$4,776,734 *
Heitman Value Partners II	2007	Real Estate - Value Added	\$10,000,000	\$9,647,233	\$14,137,084	\$17,473	\$0	\$0	\$17,473 *
M&G Real Estate Debt Fund III	2013	Real Estate - Value Added	\$105,207,180	\$124,233,424	\$78,128,130	\$49,850,902	-\$24,246	\$729,473	\$48,858,148
Northwood Real Estate Partners (Series IV)	2013	Real Estate - Opportunistic	\$150,000,000	\$160,406,369	\$71,617,404	\$147,204,348	\$2,310,153	\$2,171,374	\$149,612,642 *
SC Core Fund	2016	Real Estate - Value Added	\$100,000,000	\$44,897,784	\$1,830,996	\$45,366,191	\$78,265	\$0	\$45,366,193 *
TA Realty VIII	2006	Real Estate - Value Added	\$15,000,000	\$15,000,000	\$14,648,778	\$269,428	\$0	\$146,379	\$269,535 *
WestRiver RE Finance Fund	2010	Real Estate - Value Added	\$75,000,000	\$62,695,038	\$60,004,891	\$44,932,218	\$0	\$159,796	\$45,092,204 *
TOTAL			\$482,432,180	\$442,115,502	\$269,533,641	\$292,411,809	\$2,364,172	\$3,293,274	\$293,992,928

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 TA, M&G, Northwood, 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 December 31, 2018

Fund Name	Vintage	Asset Class	Commitment	As of 09/30/2018			Quarter To Date Ending 12/31/2018		
				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	\$139,600,000	\$243,884,437	\$0	\$19,600,000	\$221,828,165
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	\$339,348,121	\$243,884,437	\$0	\$19,600,000	\$221,828,165

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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