



Quarterly Investment Performance Analysis

Montana Board of Investments

Period Ended: June 30, 2021



Montana Board of Investments
Comparative Performance
Retirement Plans

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Public Employees' Retirement - Net	6.57	10.81	27.72	11.51	11.06	8.79	9.36	7.12	11.94	16.77	-2.63	14.80	7.32	8.16	07/01/1994
Public Employees' Benchmark	5.22	9.63	29.35	11.16	10.92	8.90	9.65	N/A	11.58	20.45	-5.57	15.35	9.12	N/A	
Difference	1.35	1.18	-1.63	0.35	0.14	-0.11	-0.29	N/A	0.36	-3.68	2.94	-0.55	-1.80	N/A	
Public Employees' Retirement - Gross	6.70	11.03	28.29	12.10	11.63	9.33	9.91	7.55	12.53	17.44	-2.03	15.34	7.78	8.48	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	36	40	44	41	66	58	50	
Teachers' Retirement - Net	6.57	10.81	27.71	11.51	11.05	8.79	9.36	7.12	11.93	16.78	-2.64	14.76	7.33	8.17	07/01/1994
Teachers' Benchmark	5.21	9.62	29.31	11.14	10.90	8.89	9.65	N/A	11.55	20.42	-5.57	15.32	9.11	N/A	
Difference	1.36	1.19	-1.60	0.37	0.15	-0.10	-0.29	N/A	0.38	-3.64	2.93	-0.56	-1.78	N/A	
Teachers' Retirement - Gross	6.70	11.03	28.28	12.10	11.63	9.33	9.91	7.55	12.52	17.45	-2.03	15.31	7.80	8.49	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	36	40	44	42	67	58	50	
Police Retirement - Net	6.57	10.82	27.73	11.53	11.06	8.79	9.36	7.08	11.95	16.80	-2.63	14.79	7.32	8.03	07/01/1994
Police Benchmark	5.22	9.64	29.39	11.16	10.92	8.90	9.65	N/A	11.60	20.44	-5.57	15.33	9.11	N/A	
Difference	1.35	1.18	-1.66	0.37	0.14	-0.11	-0.29	N/A	0.35	-3.64	2.94	-0.54	-1.79	N/A	
Police Retirement - Gross	6.70	11.03	28.30	12.12	11.64	9.33	9.91	7.51	12.54	17.47	-2.02	15.33	7.78	8.35	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	36	31	15	8	41	40	42	41	66	58	60	

Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$3B Total Fund Median is reported gross of fees. Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. Retirement plan benchmarks' inception dates were updated to 1/1/2011.



Montana Board of Investments
Comparative Performance
Retirement Plans

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Firefighters' Retirement - Net	6.57	10.82	27.73	11.53	11.06	8.80	9.36	7.09	11.95	16.79	-2.62	14.79	7.32	8.02	07/01/1994
Firefighters' Benchmark	5.22	9.63	29.38	11.16	10.92	8.90	9.65	N/A	11.59	20.44	-5.57	15.33	9.12	N/A	
Difference	1.35	1.19	-1.65	0.37	0.14	-0.10	-0.29	N/A	0.36	-3.65	2.95	-0.54	-1.80	N/A	
Firefighters' Retirement - Gross	6.70	11.03	28.30	12.12	11.64	9.34	9.91	7.52	12.53	17.46	-2.01	15.34	7.78	8.34	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	36	31	15	8	40	40	42	41	66	58	60	
Sheriffs' Retirement - Net	6.57	10.81	27.72	11.51	11.06	8.79	9.35	7.12	11.94	16.75	-2.62	14.80	7.33	8.06	07/01/1994
Sheriffs' Benchmark	5.21	9.63	29.34	11.15	10.92	8.90	9.65	N/A	11.58	20.43	-5.56	15.35	9.13	N/A	
Difference	1.36	1.18	-1.62	0.36	0.14	-0.11	-0.30	N/A	0.36	-3.68	2.94	-0.55	-1.80	N/A	
Sheriffs' Retirement - Gross	6.70	11.03	28.29	12.10	11.64	9.33	9.90	7.55	12.53	17.42	-2.02	15.34	7.79	8.38	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	37	40	44	41	66	58	53	
Highway Patrol Retirement - Net	6.57	10.83	27.72	11.52	11.06	8.79	9.36	7.12	11.94	16.78	-2.62	14.79	7.30	8.05	07/01/1994
Highway Patrol Benchmark	5.22	9.64	29.36	11.17	10.93	8.90	9.66	N/A	11.60	20.45	-5.56	15.34	9.11	N/A	
Difference	1.35	1.19	-1.64	0.35	0.13	-0.11	-0.30	N/A	0.34	-3.67	2.94	-0.55	-1.81	N/A	
Highway Patrol Retirement - Gross	6.70	11.04	28.29	12.11	11.64	9.34	9.91	7.55	12.53	17.45	-2.01	15.33	7.77	8.37	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	36	40	44	41	66	58	54	

Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$3B Total Fund Median is reported gross of fees. Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. Retirement plan benchmarks' inception dates were updated to 1/1/2011.



Montana Board of Investments
Comparative Performance
Retirement Plans

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	20 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Game Wardens' Retirement - Net	6.57	10.82	27.71	11.50	11.06	8.79	9.35	7.08	11.91	16.77	-2.62	14.81	7.31	8.07	07/01/1994
Game Wardens' Benchmark	5.22	9.63	29.33	11.15	10.92	8.90	9.65	N/A	11.56	20.45	-5.56	15.36	9.14	N/A	
Difference	1.35	1.19	-1.62	0.35	0.14	-0.11	-0.30	N/A	0.35	-3.68	2.94	-0.55	-1.83	N/A	
Game Wardens' Retirement - Gross	6.70	11.03	28.28	12.10	11.64	9.33	9.90	7.51	12.50	17.44	-2.01	15.35	7.78	8.39	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	41	41	44	41	65	58	53	
Judges' Retirement - Net	6.57	10.82	27.73	11.52	11.07	8.80	9.36	7.12	11.94	16.78	-2.64	14.82	7.32	8.06	07/01/1994
Judges' Benchmark	5.22	9.63	29.37	11.17	10.93	8.91	9.65	N/A	11.59	20.47	-5.57	15.37	9.13	N/A	
Difference	1.35	1.19	-1.64	0.35	0.14	-0.11	-0.29	N/A	0.35	-3.69	2.93	-0.55	-1.81	N/A	
Judges' Retirement - Gross	6.70	11.04	28.30	12.11	11.64	9.34	9.91	7.55	12.53	17.45	-2.03	15.36	7.79	8.38	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	24	22	38	37	31	15	8	36	40	43	42	65	58	53	
Volunteer Firefighters' Retirement - Net	6.58	10.83	27.74	11.52	11.06	8.78	9.36	7.37	11.94	16.79	-2.64	14.79	7.16	7.87	07/01/1994
Volunteer Firefighters' Benchmark	5.22	9.64	29.39	11.16	10.92	8.90	9.65	N/A	11.59	20.47	-5.59	15.33	9.11	N/A	
Difference	1.36	1.19	-1.65	0.36	0.14	-0.12	-0.29	N/A	0.35	-3.68	2.95	-0.54	-1.95	N/A	
Volunteer Firefighters' Retirement - Gross	6.70	11.04	28.30	12.11	11.64	9.32	9.90	7.80	12.53	17.46	-2.04	15.34	7.63	8.19	07/01/1994
All Public Plans > \$3B Total Fund Median	6.06	9.89	27.20	11.05	11.02	8.28	8.55	7.38	11.99	17.24	-2.79	16.10	7.98	8.47	
Rank	23	22	38	37	31	15	8	17	40	42	42	66	66	63	

Net performance shown is net of all manager fees and expenses (Net-All). All Public Plans > \$3B Total Fund Median is reported gross of fees. Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. Retirement plan benchmarks' inception dates were updated to 1/1/2011.

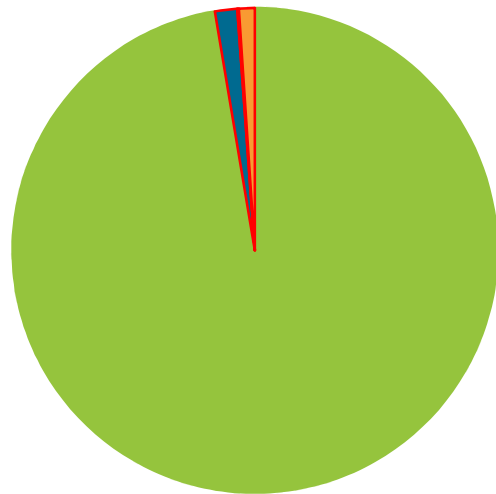


Montana Board of Investments
 Asset Allocation by Segment
 Retirement Plans

As of June 30, 2021

	Consolidated Asset Pension Pool (CAPP)		Short Term Investment Pool (STIP)		Total Fund	
	(\$)	%	(\$)	%	(\$)	%
Public Employees' Retirement	7,122,350,428	49.47	74,118,469	48.59	7,196,468,897	49.46
Teachers' Retirement	5,032,454,490	34.95	52,313,659	34.30	5,084,768,150	34.95
Firefighters' Retirement	586,300,174	4.07	5,993,920	3.93	592,294,094	4.07
Police Retirement	544,953,761	3.79	5,492,264	3.60	550,446,025	3.78
Sheriffs' Retirement	479,631,403	3.33	5,091,769	3.34	484,723,172	3.33
Game Wardens' Retirement	269,697,525	1.87	3,049,478	2.00	272,747,003	1.87
Highway Patrol Retirement	183,389,800	1.27	2,028,626	1.33	185,418,427	1.27
Judges' Retirement	131,799,931	0.92	1,389,334	0.91	133,189,265	0.92
Volunteer Firefighters' Retirement	46,570,141	0.32	3,045,493	2.00	49,615,634	0.34
Retirement Plans Total Fund Composite	14,397,147,654	98.95	152,523,012	1.05	14,549,670,666	100.00

June 30, 2021 : \$14,549,670,666

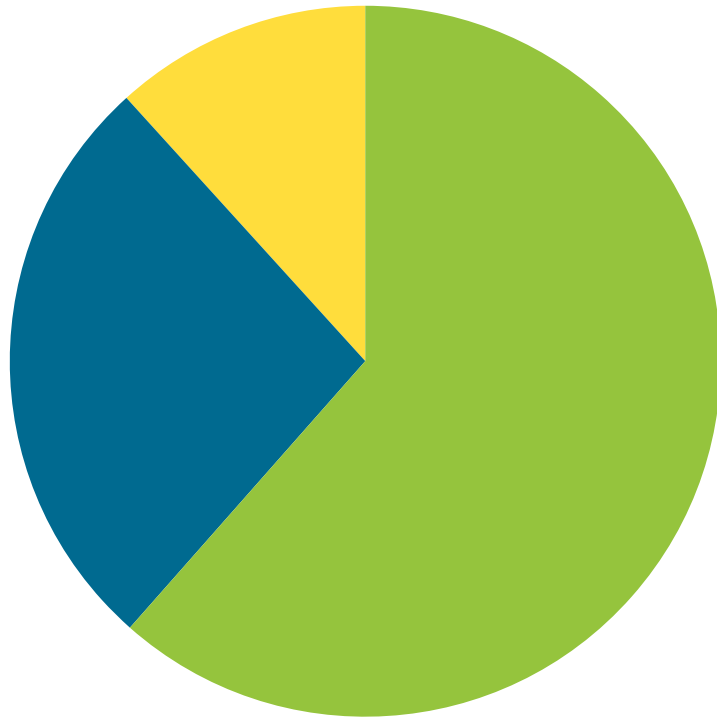


Segments	Market Value (\$)	Allocation (%)
CAPP Ex Cash	14,165,530,229	97.36
CAPP Cash Pension	216,118,084	1.49
CAPP Asset Class Cash	15,499,340	0.11
Short Term Investment Pool (STIP)	152,523,012	1.05
Total Cash	384,140,437	2.64

Allocations shown may not sum up to 100% exactly due to rounding. Retirement Plan market values may differ from State Street due to uninvested amounts not included in segment totals.



June 30, 2021 : \$23,404,751,148



	Market Value (\$)	Allocation (%)
Consolidated Asset Pension Pool (CAPP)	14,397,147,640	61.51
Short Term Investment Pool	6,261,950,442	26.76
Trust Funds Investment Pool	2,745,653,065	11.73

Allocations shown may not sum up to 100% exactly due to rounding. Market values do not include pending transactions.

Montana Board of Investments
Comparative Performance
Investment Pools

As of June 30, 2021

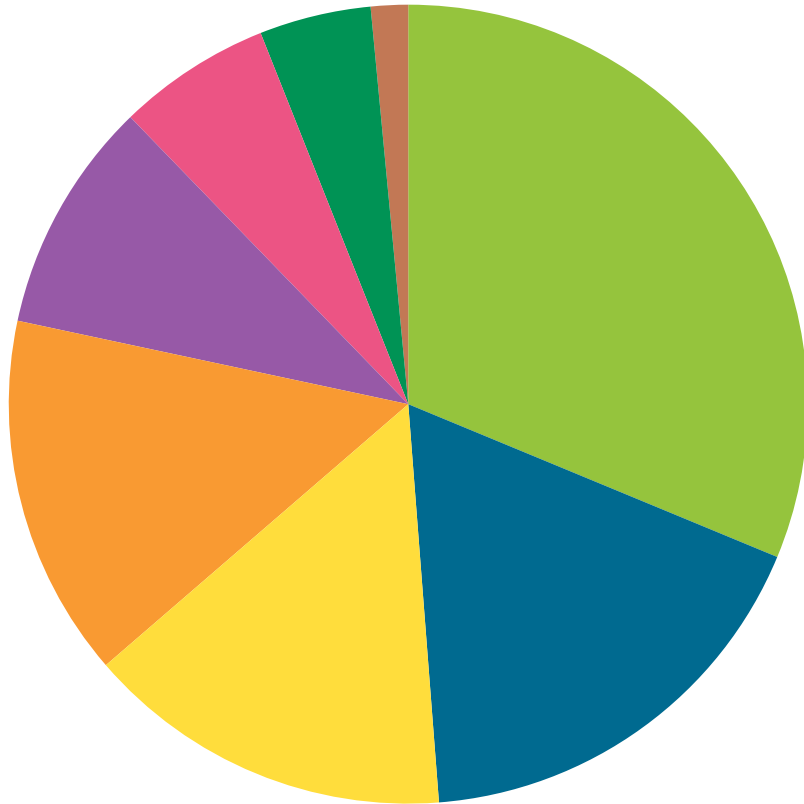
	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Consolidated Asset Pension Pool (CAPP)	6.65	10.94	28.07	11.68	N/A	N/A	N/A	12.10	17.12	-2.74	N/A	N/A	11.12	04/01/2017
CAPP Custom Benchmark	5.28	9.74	29.73	11.31	N/A	N/A	N/A	11.73	20.88	-5.73	N/A	N/A	10.82	
Difference	1.37	1.20	-1.66	0.37	N/A	N/A	N/A	0.37	-3.76	2.99	N/A	N/A	0.30	
Trust Funds Investment Pool	2.05	-0.24	1.53	5.80	3.67	4.05	4.41	7.23	8.98	0.45	4.01	4.02	6.01	10/01/1995
Bloomberg US Agg Bond Index	1.83	-1.61	-0.34	5.34	3.03	3.28	3.39	7.51	8.72	0.01	3.54	2.65	5.11	
Difference	0.22	1.37	1.87	0.46	0.64	0.77	1.02	-0.28	0.26	0.44	0.47	1.37	0.90	
Short Term Investment Pool	0.01	0.05	0.20	1.39	1.29	1.00	0.77	0.73	2.28	1.98	1.11	0.61	2.33	04/01/1997
Short Term Custom Index	0.00	0.02	0.06	1.19	1.18	0.92	0.70	0.36	2.14	1.95	1.15	0.52	2.25	
Difference	0.01	0.03	0.14	0.20	0.11	0.08	0.07	0.37	0.14	0.03	-0.04	0.09	0.08	
iMoney.net Money Fund (Gross) Median	0.04	0.09	0.20	1.48	1.39	1.08	0.83	0.73	2.45	2.15	1.21	0.61	2.33	
Difference	-0.03	-0.04	0.00	-0.09	-0.10	-0.08	-0.06	0.00	-0.17	-0.17	-0.10	0.00	0.00	

Performance shown is net of all manager fees and expenses (Net-All). Benchmark returns reflect unmanaged indices which are not impacted by management fees. Fiscal year ends on 06/30. See the Addendum for custom index specification. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
 Asset Allocation
 Consolidated Asset Pension Pool (CAPP)

As of June 30, 2021

June 30, 2021 : \$14,397,147,780



	Market Value (\$)	Allocation (%)
Domestic Equity	4,499,360,645	31.25
International Equity	2,522,020,311	17.52
Private Investments	2,144,265,322	14.89
Core Fixed Income	2,114,575,439	14.69
Real Estate	1,354,895,321	9.41
Non-Core Fixed Income	894,926,386	6.22
Real Assets*	650,986,272	4.52
Cash Pension	216,118,084	1.50

Allocations shown may not sum up to 100% due to rounding.
 *Formerly the Natural Resources pension asset class.



Montana Board of Investments
Comparative Performance
Consolidated Asset Pension Pool (CAPP)

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Equity	8.16	16.23	45.71	17.88	17.28	13.46	14.31	20.09	30.75	-7.09	20.79	11.46	10.65	05/01/2003
Domestic Equity Custom Index	8.46	15.29	44.43	18.87	17.91	14.21	14.89	21.10	31.14	-5.20	21.05	13.03	11.40	
Difference	-0.30	0.94	1.28	-0.99	-0.63	-0.75	-0.58	-1.01	-0.39	-1.89	-0.26	-1.57	-0.75	
International Equity	5.35	9.13	37.65	10.14	11.70	6.14	5.97	13.35	22.86	-14.99	28.67	3.87	5.53	04/01/1997
International Equity Custom Index	5.60	9.58	37.18	9.42	11.20	5.56	5.63	11.12	21.63	-14.76	27.81	4.41	5.74	
Difference	-0.25	-0.45	0.47	0.72	0.50	0.58	0.34	2.23	1.23	-0.23	0.86	-0.54	-0.21	
Core Fixed Income	1.83	-1.54	-0.15	5.00	2.78	3.26	3.67	8.25	6.90	0.95	2.29	3.19	5.87	04/01/1995
Core Fixed Income Custom Index	1.83	-1.60	-0.33	4.54	2.53	2.92	3.14	7.51	6.39	0.68	2.57	2.65	5.22	
Difference	0.00	0.06	0.18	0.46	0.25	0.34	0.53	0.74	0.51	0.27	-0.28	0.54	0.65	
Non-Core Fixed Income	2.96	2.51	13.19	6.81	6.36	4.71	6.11	6.40	13.98	-2.27	5.99	12.47	8.04	06/01/2009
Bloomberg US HY 2% Issuer Cap Index	2.74	3.61	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	9.11	
Difference	0.22	-1.10	-2.15	-0.61	-1.11	-0.76	-0.54	-0.65	-0.34	-0.19	-1.51	-4.66	-1.07	
Real Assets	9.61	16.21	20.42	0.60	N/A	N/A	N/A	-13.43	-2.18	5.55	N/A	N/A	2.31	04/01/2017
Real Assets Custom Index	4.01	9.26	30.29	-3.08	3.68	-2.59	-1.95	-12.32	13.06	-11.75	13.70	32.44	2.35	
Difference	5.60	6.95	-9.87	3.68	N/A	N/A	N/A	-1.11	-15.24	17.30	N/A	N/A	-0.04	
Real Estate	3.10	6.43	8.62	5.86	7.02	8.59	9.18	-0.35	6.97	9.19	9.17	8.82	4.12	06/01/2006
Real Estate Custom Index	1.89	3.00	1.47	-0.60	1.79	4.75	6.87	-19.66	25.84	-4.57	5.99	9.08	4.39	
Difference	1.21	3.43	7.15	6.46	5.23	3.84	2.31	19.31	-18.87	13.76	3.18	-0.26	-0.27	
Cash Pension	0.04	0.09	0.19	1.39	N/A	N/A	N/A	0.84	2.28	2.00	N/A	N/A	1.41	05/01/2017
Short Term Custom Index	0.00	0.02	0.06	1.19	1.18	0.92	0.70	0.36	2.14	1.95	1.15	0.52	1.27	
Difference	0.04	0.07	0.13	0.20	N/A	N/A	N/A	0.48	0.14	0.05	N/A	N/A	0.14	
Private Investments*	14.02	22.46	41.55	16.89	15.84	13.27	13.30	10.91	12.95	11.55	15.20	7.37	13.04	05/01/2002
Private Investments Custom Index	4.46	15.45	57.16	13.96	15.60	14.26	15.72	18.90	27.38	-9.99	20.59	20.11	12.22	
Difference	9.56	7.01	-15.61	2.93	0.24	-0.99	-2.42	-7.99	-14.43	21.54	-5.39	-12.74	0.82	

For additional information on the Private Investments Custom Index, please see the Addendum.

*Performance is based on the prior quarter's fair market value adjusted for cash flows during the most recent quarterly period.

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Montana Board of Investments
Comparative Performance
Investment Pools

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Equity	8.23	16.37	46.07	18.20	17.61	13.79	14.65	20.37	31.13	-6.78	21.16	11.77	10.95	05/01/2003
All Public Plans-US Equity Segment Median	7.93	15.14	43.96	17.43	17.11	13.18	14.10	18.92	30.04	-5.83	20.31	12.78	11.02	
Rank	38	20	30	33	39	31	30	32	28	74	31	74	57	
Population	57	57	52	49	46	45	34	67	65	66	89	90	10	
International Equity	5.44	9.30	38.08	10.50	12.06	6.49	6.33	13.71	23.28	-14.72	29.06	4.24	5.95	04/01/1997
All Public Plans-Intl. Equity Segment Median	5.85	10.27	39.57	11.24	12.22	6.90	7.04	12.76	23.71	-13.63	28.75	4.00	N/A	
Rank	78	76	70	64	61	68	81	45	62	78	46	44	N/A	
Population	57	56	53	51	51	49	35	68	65	68	84	88	N/A	
Core Fixed Income	1.84	-1.52	-0.09	5.05	2.82	3.30	3.71	8.31	6.94	1.00	2.34	3.21	6.01	04/01/1995
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	1.97	-1.23	1.05	6.07	3.67	3.80	3.96	8.52	9.19	0.07	4.03	3.10	5.75	
Rank	79	72	80	97	97	90	73	55	97	8	100	47	24	
Population	126	126	126	123	121	119	113	147	152	158	163	170	63	
Non-Core Fixed Income	3.05	2.72	13.71	7.37	6.92	5.25	6.66	6.94	14.60	-1.71	6.58	13.04	8.61	06/01/2009
IM U.S. High Yield Bonds (SA+CF) Median	2.67	3.60	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	8.99	
Rank	23	84	63	48	64	59	49	40	41	52	74	63	72	
Population	136	136	136	133	127	122	101	164	182	192	197	203	90	
Trust Funds Investment Pool	2.08	-0.19	1.61	5.88	3.76	4.14	4.50	7.30	9.06	0.53	4.10	4.12	6.07	10/01/1995
All Public Plans-US Fixed Income Segment Median	2.45	-0.29	3.04	5.98	4.04	3.87	4.12	8.59	9.25	-0.25	4.59	4.61	N/A	
Rank	66	47	66	57	62	41	37	78	53	22	62	61	N/A	
Population	63	62	59	55	54	53	42	74	68	72	85	90	N/A	
Real Estate	3.79	7.30	9.98	7.45	8.64	10.16	10.73	1.11	8.65	11.12	10.91	10.26	5.59	06/01/2006
All Public Plans-Real Estate Segment Median	3.70	6.70	8.70	6.46	7.82	9.51	10.49	1.66	7.65	9.04	8.84	9.98	N/A	
Rank	44	38	32	29	37	19	42	72	39	15	26	47	N/A	
Population	44	40	35	26	21	16	13	38	35	27	32	28	N/A	

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Equity Composites

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Large Cap Equity - Net	8.63	15.83	43.93	19.52	18.21	14.45	14.97	21.44	31.06	-4.71	21.66	11.30	10.27	12/01/2006
S&P 500 Index (Cap Wtd)	8.55	15.25	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	10.25	
Difference	0.08	0.58	3.14	0.85	0.56	0.35	0.13	3.04	-0.43	-0.33	-0.17	-0.66	0.02	
Domestic Large Cap Equity - Gross	8.68	15.94	44.20	19.74	18.41	14.64	15.17	21.66	31.29	-4.52	21.82	11.45	10.49	12/01/2006
IM U.S. Large Cap Equity (SA+CF) Median	8.04	15.33	42.05	18.29	17.55	13.71	14.64	17.90	30.24	-5.01	21.73	11.04	10.43	
Rank	33	43	34	33	35	33	35	34	41	45	49	47	47	
Domestic Large Cap Active - Net	8.14	17.04	45.71	19.43	18.28	14.35	14.95	21.48	31.03	-5.88	21.85	9.63	9.96	07/01/2007
S&P 500 Index (Cap Wtd)	8.55	15.25	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	10.06	
Difference	-0.41	1.79	4.92	0.76	0.63	0.25	0.11	3.08	-0.46	-1.50	0.02	-2.33	-0.10	
Domestic Large Cap Active - Gross	8.30	17.36	46.55	20.14	18.93	14.95	15.53	22.24	31.82	-5.34	22.40	10.12	10.49	07/01/2007
IM U.S. Large Cap Equity (SA+CF) Median	8.04	15.33	42.05	18.31	17.56	13.71	14.65	17.94	30.24	-5.01	21.73	11.04	10.21	
Rank	44	32	24	32	30	30	31	33	34	55	43	57	42	
Domestic Mid Cap Equity - Net	3.53	17.55	53.06	14.13	14.52	10.23	12.10	13.53	28.03	-10.75	19.45	12.30	9.72	01/01/2005
Russell Mid Cap Index	7.50	16.25	49.80	16.45	15.62	12.03	13.24	17.10	30.54	-9.06	18.52	13.80	10.64	
Difference	-3.97	1.30	3.26	-2.32	-1.10	-1.80	-1.14	-3.57	-2.51	-1.69	0.93	-1.50	-0.92	
Domestic Mid Cap Equity - Gross	3.53	17.55	53.06	14.26	14.86	10.65	12.59	13.53	28.11	-10.28	20.18	12.97	10.18	01/01/2005
IM U.S. Mid Cap Equity (SA+CF) Median	6.26	15.40	49.67	15.69	15.84	11.86	13.30	15.92	30.07	-9.06	19.38	12.65	11.24	
Rank	94	39	33	58	58	68	64	59	64	59	48	49	88	
Domestic Small Cap Equity - Net	5.81	21.42	63.43	13.18	15.75	11.39	12.62	13.07	25.76	-10.51	15.65	19.31	12.66	03/01/2003
Russell 2000 Index	4.29	17.54	62.03	13.52	16.47	11.39	12.34	19.96	25.53	-11.01	14.65	21.31	12.14	
Difference	1.52	3.88	1.40	-0.34	-0.72	0.00	0.28	-6.89	0.23	0.50	1.00	-2.00	0.52	
Domestic Small Cap Equity - Gross	5.92	21.66	64.09	13.63	16.29	11.95	13.26	13.50	26.25	-10.09	16.27	19.97	13.20	03/01/2003
IM U.S. Small Cap Equity (SA+CF) Median	4.57	18.18	61.25	13.85	16.42	11.66	13.21	16.66	25.86	-10.59	15.17	20.86	13.55	
Rank	29	37	41	52	51	48	50	57	48	48	44	56	58	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all composites. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.



Montana Board of Investments
Comparative Performance
Equity Composites

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
International Large Cap Passive - Net	5.44	9.22	35.71	9.53	11.28	5.68	5.68	10.81	21.59	-14.04	27.79	4.87	7.76	06/01/2009
MSCI ACW Ex US Index (USD) (Net)	5.48	9.16	35.72	9.38	11.08	5.33	5.45	10.65	21.51	-14.20	27.19	4.50	7.54	
Difference	-0.04	0.06	-0.01	0.15	0.20	0.35	0.23	0.16	0.08	0.16	0.60	0.37	0.22	
International Large Cap Passive - Gross	5.45	9.25	35.79	9.60	11.35	5.75	5.76	10.88	21.66	-13.98	27.88	4.96	7.84	06/01/2009
International Equity Active - Net	5.24	9.06	39.88	11.11	12.49	7.33	6.97	15.91	25.83	-16.18	30.82	2.63	4.62	04/01/1997
MSCI ACW Ex US Index (USD) (Net)	5.48	9.16	35.72	9.38	11.08	5.33	5.45	10.65	21.51	-14.20	27.19	4.50	5.80	
Difference	-0.24	-0.10	4.16	1.73	1.41	2.00	1.52	5.26	4.32	-1.98	3.63	-1.87	-1.18	
International Equity Active - Gross	5.36	9.33	40.58	11.68	13.08	7.88	7.49	16.50	26.48	-15.73	31.50	3.17	5.14	04/01/1997
IM International Large Cap Core Equity (SA+CF) Median	5.69	9.63	35.41	9.77	11.57	6.45	7.23	10.99	23.69	-14.33	26.33	1.52	7.21	
Rank	60	61	17	27	25	18	37	27	29	68	12	31	100	
International Value - Net	5.04	9.97	39.29	8.84	11.34	5.77	5.83	9.31	20.76	-13.97	30.72	5.59	3.59	11/01/2006
MSCI ACW Ex US Val Index (USD) (Net)	4.33	11.69	37.56	5.22	8.54	2.43	3.48	-0.77	15.72	-13.97	22.66	8.92	2.80	
Difference	0.71	-1.72	1.73	3.62	2.80	3.34	2.35	10.08	5.04	0.00	8.06	-3.33	0.79	
International Value - Gross	5.16	10.24	39.98	9.39	11.91	6.32	6.40	9.87	21.37	-13.52	31.39	6.17	4.17	11/01/2006
IM International Large Cap Value Equity (SA+CF) Median	4.49	10.80	38.46	7.86	10.13	5.34	6.54	5.02	21.16	-14.52	25.90	4.29	5.22	
Rank	30	58	41	34	27	30	58	32	46	40	12	31	66	
International Growth - Net	4.49	6.57	37.05	14.54	13.28	8.34	7.27	23.08	31.39	-16.09	28.01	0.51	5.29	11/01/2006
MSCI ACW Ex US Grth Index (USD) (Net)	6.60	6.52	33.68	13.23	13.37	8.06	7.28	22.20	27.34	-14.43	32.01	0.12	5.90	
Difference	-2.11	0.05	3.37	1.31	-0.09	0.28	-0.01	0.88	4.05	-1.66	-4.00	0.39	-0.61	
International Growth - Gross	4.63	6.85	37.77	15.16	13.91	8.94	7.83	23.74	32.10	-15.61	28.74	1.12	5.84	11/01/2006
IM International Large Cap Growth Equity (SA+CF) Median	7.04	7.86	35.44	13.16	14.33	8.88	8.90	20.46	28.35	-13.91	31.37	0.00	6.85	
Rank	85	72	38	33	54	46	70	39	18	68	68	35	82	
International Small Cap - Net	6.56	11.63	44.93	9.48	12.38	7.36	7.80	14.63	23.91	-18.90	33.61	1.84	6.08	09/01/2006
MSCI ACWI Ex US Sm Cap Index IMI (USD) (Net)	6.35	12.24	47.04	9.78	11.97	7.07	7.02	14.24	22.42	-18.20	31.65	3.91	6.58	
Difference	0.21	-0.61	-2.11	-0.30	0.41	0.29	0.78	0.39	1.49	-0.70	1.96	-2.07	-0.50	

Gross of fees performance is not available (N/A) for the International Small Cap composite which currently consists of DFA Intl Sm Co;I (DFISX), DFA Emg Mkts Sm Cap;I (DEMSX), BlackRock ACWI Ex-US Small Cap (CF), Templeton Investment Counsel (SA), and American Century Investment Mgmt (SA).

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all composites. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.



Montana Board of Investments
Comparative Performance
Equity Sub Composites

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Large Cap Passive - Net	8.88	14.86	42.40	19.45	18.08	14.32	15.00	21.33	30.99	-3.94	21.34	12.01	7.41	05/01/2000
S&P 500 Index (Cap Wtd)	8.55	15.25	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	7.32	
Difference	0.33	-0.39	1.61	0.78	0.43	0.22	0.16	2.93	-0.50	0.44	-0.49	0.05	0.09	
Domestic Large Cap Passive - Gross	8.88	14.87	42.41	19.46	18.09	14.33	15.01	21.35	31.00	-3.93	21.35	12.03	7.44	05/01/2000
IM U.S. Large Cap Index Equity (SA+CF) Median	8.52	15.25	42.79	18.71	17.89	14.10	14.84	19.39	31.41	-4.75	21.73	12.01	7.50	
Rank	15	82	62	19	26	23	21	19	66	20	61	49	54	
Domestic Large Cap Enhanced - Net	8.76	14.35	42.12	18.57	17.98	14.45	15.08	18.62	32.81	-4.20	24.21	9.73	10.41	06/01/2006
S&P 500 Index (Cap Wtd)	8.55	15.25	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	10.68	
Difference	0.21	-0.90	1.33	-0.10	0.33	0.35	0.24	0.22	1.32	0.18	2.38	-2.23	-0.27	
Domestic Large Cap Enhanced - Gross	8.83	14.50	42.52	18.90	18.30	14.78	15.41	18.97	33.17	-3.96	24.53	10.05	10.73	06/01/2006
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	15.36	40.71	17.73	17.25	13.63	14.52	17.25	30.00	-5.20	21.84	10.63	10.76	
Rank	19	65	35	32	23	18	24	40	15	30	21	58	52	
Domestic Large Cap 130/30 - Net	8.01	17.58	46.44	19.29	18.20	13.97	15.00	21.97	30.67	-7.10	20.28	9.54	11.71	03/01/2008
S&P 500 Index (Cap Wtd)	8.55	15.25	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	11.49	
Difference	-0.54	2.33	5.65	0.62	0.55	-0.13	0.16	3.57	-0.82	-2.72	-1.55	-2.42	0.22	
Domestic Large Cap 130/30 - Gross	8.18	17.94	47.36	20.12	19.02	14.75	15.78	22.79	31.57	-6.32	21.10	10.22	12.46	03/01/2008
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	15.36	40.71	17.66	17.23	13.61	14.52	17.19	30.00	-5.20	21.84	10.63	11.52	
Rank	41	19	13	16	14	20	11	24	33	71	63	56	17	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all composites. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Domestic Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Large Cap Equity														
BlackRock MSCI US Equity Index (SA) - Net	8.89	42.47	42.47	N/A	N/A	N/A	N/A	21.33	N/A	N/A	N/A	N/A	23.57	04/01/2019
MSCI US Index (USD) (Gross)	8.90	42.51	42.51	19.43	18.15	14.35	15.02	21.37	31.64	-4.50	21.90	11.61	23.61	
Difference	-0.01	-0.04	-0.04	N/A	N/A	N/A	N/A	-0.04	N/A	N/A	N/A	N/A	-0.04	
BlackRock MSCI US Equity Index (SA) - Gross	8.89	42.49	42.49	N/A	N/A	N/A	N/A	21.34	N/A	N/A	N/A	N/A	23.59	04/01/2019
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	40.71	40.71	17.73	17.25	13.63	14.52	17.25	30.00	-5.20	21.84	10.63	21.63	
Rank	16	35	35	N/A	N/A	N/A	N/A	28	N/A	N/A	N/A	N/A	26	
SPDR S&P 500 ETF (SPY) - Net	8.34	40.70	40.70	19.05	N/A	N/A	N/A	19.28	31.49	-5.30	N/A	N/A	17.50	07/01/2017
S&P 500 Index (Cap Wtd)	8.55	40.79	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	17.58	
Difference	-0.21	-0.09	-0.09	0.38	N/A	N/A	N/A	0.88	0.00	-0.92	N/A	N/A	-0.08	
Northern Trust MSCI US Index (SA) - Net	8.89	42.47	42.47	N/A	N/A	N/A	N/A	21.34	31.70	N/A	N/A	N/A	22.09	11/01/2018
MSCI US Index (USD) (Gross)	8.90	42.51	42.51	19.43	18.15	14.35	15.02	21.37	31.64	-4.50	21.90	11.61	22.09	
Difference	-0.01	-0.04	-0.04	N/A	N/A	N/A	N/A	-0.03	0.06	N/A	N/A	N/A	0.00	
Northern Trust MSCI US Index (SA) - Gross	8.89	42.48	42.48	N/A	N/A	N/A	N/A	21.36	31.71	N/A	N/A	N/A	22.10	11/01/2018
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	40.71	40.71	17.73	17.25	13.63	14.52	17.25	30.00	-5.20	21.84	10.63	20.07	
Rank	16	35	35	N/A	N/A	N/A	N/A	28	32	N/A	N/A	N/A	27	
T. Rowe U.S. Structured Research (SA) - Net	8.76	42.67	42.67	18.72	18.26	14.56	15.21	18.62	32.81	-4.20	23.94	10.68	11.15	06/01/2006
S&P 500 Index (Cap Wtd)	8.55	40.79	40.79	18.67	17.65	14.10	14.84	18.40	31.49	-4.38	21.83	11.96	10.68	
Difference	0.21	1.88	1.88	0.05	0.61	0.46	0.37	0.22	1.32	0.18	2.11	-1.28	0.47	
T. Rowe U.S. Structured Research (SA) - Gross	8.83	43.07	43.07	19.05	18.57	14.87	15.53	18.97	33.17	-3.96	24.24	10.98	11.48	06/01/2006
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	40.71	40.71	17.66	17.23	13.61	14.52	17.19	30.00	-5.20	21.84	10.63	10.76	
Rank	19	31	31	32	18	16	20	40	15	30	24	47	21	
Jacobs Levy 130/30 (SA) - Net	7.64	48.35	48.35	17.96	N/A	N/A	N/A	17.03	31.63	N/A	N/A	N/A	17.94	04/01/2018
MSCI US Index (USD) (Gross)	8.90	42.51	42.51	19.43	18.15	14.35	15.02	21.37	31.64	-4.50	21.90	11.61	19.08	
Difference	-1.26	5.84	5.84	-1.47	N/A	N/A	N/A	-4.34	-0.01	N/A	N/A	N/A	-1.14	
Jacobs Levy 130/30 (SA) - Gross	7.82	49.33	49.33	18.78	N/A	N/A	N/A	17.81	32.55	N/A	N/A	N/A	18.79	04/01/2018
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	40.71	40.71	17.73	17.25	13.63	14.52	17.25	30.00	-5.20	21.84	10.63	17.12	
Rank	54	8	8	35	N/A	N/A	N/A	48	22	N/A	N/A	N/A	28	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.



Montana Board of Investments
Comparative Performance
Domestic Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
J.P. Morgan 130/30 (SA) - Net	8.43	43.44	43.44	20.41	19.66	14.56	15.50	27.16	30.55	-6.93	22.86	10.30	12.72	03/01/2008
JPM US Equity Custom Benchmark	8.90	42.51	42.51	19.49	18.13	14.44	15.08	21.37	31.37	-4.38	21.83	11.96	11.66	
Difference	-0.47	0.93	0.93	0.92	1.53	0.12	0.42	5.79	-0.82	-2.55	1.03	-1.66	1.06	
J.P. Morgan 130/30 (SA) - Gross	8.59	44.30	44.30	21.24	20.52	15.37	16.33	28.00	31.42	-6.13	23.79	11.09	13.53	03/01/2008
IM U.S. Large Cap Core Equity (SA+CF) Median	7.95	40.71	40.71	17.66	17.23	13.61	14.52	17.19	30.00	-5.20	21.84	10.63	11.52	
Rank	25	21	21	6	7	7	5	6	36	67	28	45	4	
Domestic Mid Cap Equity														
iShares:Core S&P Md-Cp (IJH) - Net	3.53	53.06	53.06	13.10	N/A	N/A	N/A	13.53	26.24	-13.95	N/A	N/A	12.31	07/01/2017
S&P Mid Cap 400 Index (Cap Wtd)	3.64	53.24	53.24	13.17	14.29	11.20	12.40	13.66	26.20	-11.08	16.24	20.74	13.25	
Difference	-0.11	-0.18	-0.18	-0.07	N/A	N/A	N/A	-0.13	0.04	-2.87	N/A	N/A	-0.94	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Domestic Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Domestic Small Cap Equity														
Vaughan Nelson Management (SA) - Net	7.47	62.15	62.15	12.25	12.20	9.56	11.36	9.83	25.34	-13.78	6.83	20.50	10.29	03/01/2007
Russell 2000 Val Index	4.56	73.28	73.28	10.27	13.62	9.26	10.85	4.63	22.39	-12.86	7.84	31.74	7.42	
Difference	2.91	-11.13	-11.13	1.98	-1.42	0.30	0.51	5.20	2.95	-0.92	-1.01	-11.24	2.87	
Vaughan Nelson Management (SA) - Gross	7.66	63.30	63.30	13.07	13.04	10.41	12.25	10.64	26.25	-13.13	7.66	21.49	11.20	03/01/2007
IM U.S. Small Cap Value Equity (SA+CF) Median	4.13	66.68	66.68	10.83	13.77	9.69	11.78	5.18	24.99	-14.16	11.64	26.80	9.41	
Rank	7	59	59	26	66	36	37	28	35	39	77	76	15	
BlackRock MSCI US Sm Cap Equity Index (CF) - Net	5.18	61.54	61.54	15.01	N/A	N/A	N/A	18.93	27.30	-9.96	N/A	N/A	15.67	07/01/2017
MSCI US Sm Cap Index (USD) (Net)	5.10	60.93	60.93	14.49	16.20	11.54	12.68	18.32	26.74	-10.40	16.75	19.15	15.15	
Difference	0.08	0.61	0.61	0.52	N/A	N/A	N/A	0.61	0.56	0.44	N/A	N/A	0.52	
BlackRock MSCI US Sm Cap Equity Index (CF) - Gross	5.19	61.58	61.58	15.04	N/A	N/A	N/A	18.96	27.34	-9.93	N/A	N/A	15.71	07/01/2017
DFA US Sm Cap Tr (CF) - Net	4.68	65.88	65.88	11.69	14.58	10.70	12.38	11.63	21.66	-12.27	11.86	24.42	12.67	03/01/2003
Russell 2000 Index	4.29	62.03	62.03	13.52	16.47	11.39	12.34	19.96	25.53	-11.01	14.65	21.31	12.14	
Difference	0.39	3.85	3.85	-1.83	-1.89	-0.69	0.04	-8.33	-3.87	-1.26	-2.79	3.11	0.53	
DFA US Sm Cap Tr (CF) - Gross	4.76	66.44	66.44	12.07	14.98	11.08	12.77	11.98	22.07	-11.95	12.25	24.85	13.00	03/01/2003
IM U.S. Small Cap Core Equity (SA+CF) Median	4.99	60.30	60.30	13.90	16.21	12.02	13.27	18.45	25.59	-10.65	15.07	20.77	13.55	
Rank	55	21	21	70	76	72	62	74	73	64	73	21	63	
iShares:Russ 2000 ETF (IWM) - Net	3.97	62.15	62.15	13.72	N/A	N/A	N/A	20.90	25.52	N/A	N/A	N/A	15.33	05/01/2018
Russell 2000 Index	4.29	62.03	62.03	13.52	16.47	11.39	12.34	19.96	25.53	-11.01	14.65	21.31	15.14	
Difference	-0.32	0.12	0.12	0.20	N/A	N/A	N/A	0.94	-0.01	N/A	N/A	N/A	0.19	

Gross of fees performance is not available (N/A) for the following funds: SPDR S&P 500 ETF (SPY), iShares:Core S&P Md-Cp (IJH), and iShares:Russ 2000 ETF (IWM).

The current annual expense ratios for the SPDR S&P 500 ETF (SPY), iShares:Core S&P Md-Cp (IJH), and iShares:Russ 2000 ETF (IWM) are 0.09%, 0.05%, and 0.19%, respectively.

See the Addendum for custom index specification.

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
International Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
International Developed Large Cap Equity														
Acadian Asset Non-US Equity (SA) - Net	6.49	47.40	47.40	9.71	14.31	7.55	7.84	8.89	19.38	-13.44	34.76	12.40	4.82	11/01/2006
MSCI ACW Ex US Val Index (USD) (Net)	4.33	37.56	37.56	5.22	8.54	2.43	3.48	-0.77	15.72	-13.97	22.66	8.92	2.80	
Difference	2.16	9.84	9.84	4.49	5.77	5.12	4.36	9.66	3.66	0.53	12.10	3.48	2.02	
Acadian Asset Non-US Equity (SA) - Gross	6.62	48.13	48.13	10.27	14.90	8.11	8.41	9.45	19.98	-12.99	35.45	13.01	5.39	11/01/2006
IM ACWI Ex US Value (SA+CF) Median	4.18	40.87	40.87	8.84	11.64	5.91	6.54	6.65	21.34	-14.78	26.02	4.87	5.21	
Rank	8	20	20	39	16	18	28	44	59	26	8	10	46	
Lazard Asset Management (SA) - Net	4.00	33.94	33.94	8.22	8.94	N/A	N/A	9.59	21.70	-14.32	27.00	0.22	5.74	06/01/2015
Lazard Custom Index	5.48	35.72	35.72	9.38	11.10	4.15	4.69	10.65	21.51	-15.55	22.66	8.92	5.79	
Difference	-1.48	-1.78	-1.78	-1.16	-2.16	N/A	N/A	-1.06	0.19	1.23	4.34	-8.70	-0.05	
Lazard Asset Management (SA) - Gross	4.12	34.59	34.59	8.76	9.49	N/A	N/A	10.14	22.31	-13.88	27.65	0.77	6.29	06/01/2015
IM ACWI Ex US Value (SA+CF) Median	4.18	40.87	40.87	8.84	11.64	5.91	6.54	6.65	21.34	-14.78	26.02	4.87	7.00	
Rank	51	81	81	51	71	N/A	N/A	42	43	35	38	86	66	
BlackRock ACW Ex US SuperFund A (CF) - Net	5.54	35.89	35.89	9.57	11.30	5.54	5.65	10.81	21.77	-13.99	27.49	4.77	7.76	06/01/2009
MSCI ACW Ex US Index (USD) (Net)	5.48	35.72	35.72	9.38	11.08	5.33	5.45	10.65	21.51	-14.20	27.19	4.50	7.54	
Difference	0.06	0.17	0.17	0.19	0.22	0.21	0.20	0.16	0.26	0.21	0.30	0.27	0.22	
BlackRock ACW Ex US SuperFund A (CF) - Gross	5.56	35.99	35.99	9.64	11.38	5.62	5.73	10.89	21.85	-13.93	27.58	4.86	7.84	06/01/2009
IM All ACWI Ex US (SA+CF) Median	5.43	38.47	38.47	10.95	12.31	6.86	7.44	14.60	24.97	-14.64	28.74	2.12	9.49	
Rank	48	67	67	60	64	69	88	60	66	43	62	25	84	
iShares:MSCI EAFE ETF (EFA) - Net	5.39	32.59	32.59	8.55	N/A	N/A	N/A	7.71	22.03	-12.88	N/A	N/A	8.15	07/01/2017
MSCI EAFE Index (USD) (Net)	5.17	32.35	32.35	8.27	10.28	4.96	5.89	7.82	22.01	-13.79	25.03	1.00	7.91	
Difference	0.22	0.24	0.24	0.28	N/A	N/A	N/A	-0.11	0.02	0.91	N/A	N/A	0.24	
Baillie Gifford (SA) - Net	5.88	42.15	42.15	16.97	16.12	N/A	N/A	34.22	34.34	-17.35	31.99	0.73	11.75	06/01/2015
MSCI ACW Ex US Grth Index (USD) (Net)	6.60	33.68	33.68	13.23	13.37	8.06	7.28	22.20	27.34	-14.43	32.01	0.12	9.23	
Difference	-0.72	8.47	8.47	3.74	2.75	N/A	N/A	12.02	7.00	-2.92	-0.02	0.61	2.52	
Baillie Gifford (SA) - Gross	6.00	42.80	42.80	17.53	16.70	N/A	N/A	34.86	34.99	-16.93	32.66	1.28	12.31	06/01/2015
IM ACWI Ex US Growth (SA+CF) Median	6.88	37.39	37.39	13.28	14.89	9.29	9.37	22.06	29.57	-13.78	32.56	-0.76	10.49	
Rank	66	20	20	17	21	N/A	N/A	12	9	85	49	33	24	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. See the Addendum for custom index specification.



Montana Board of Investments
Comparative Performance
International Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Invesco (SA) - Net	3.32	32.91	32.91	12.59	11.06	N/A	N/A	14.84	29.29	-15.17	24.92	0.32	7.33	06/01/2015
MSCI ACW Ex US Grth Index (USD) (Net)	6.60	33.68	33.68	13.23	13.37	8.06	7.28	22.20	27.34	-14.43	32.01	0.12	9.23	
Difference	-3.28	-0.77	-0.77	-0.64	-2.31	N/A	N/A	-7.36	1.95	-0.74	-7.09	0.20	-1.90	
Invesco (SA) - Gross	3.46	33.66	33.66	13.25	11.73	N/A	N/A	15.51	30.05	-14.64	25.70	1.01	7.99	06/01/2015
IM ACWI Ex US Growth (SA+CF) Median	6.88	37.39	37.39	13.28	14.89	9.29	9.37	22.06	29.57	-13.78	32.56	-0.76	10.49	
Rank	96	71	71	51	87	N/A	N/A	83	44	56	91	36	87	
International Developed Small Cap Equity														
American Century Investment Mgmt (SA) - Net	5.42	37.14	37.14	11.36	15.28	9.95	N/A	31.60	29.44	-20.76	43.80	-5.31	9.50	03/01/2014
MSCI ACW Ex US Sm Cap Grth Index (USD) (Net)	6.75	44.91	44.91	11.91	13.29	8.59	7.90	23.69	24.61	-18.27	33.64	-0.28	8.64	
Difference	-1.33	-7.77	-7.77	-0.55	1.99	1.36	N/A	7.91	4.83	-2.49	10.16	-5.03	0.86	
American Century Investment Mgmt (SA) - Gross	5.62	38.25	38.25	12.28	16.24	10.88	N/A	32.68	30.50	-20.09	44.99	-4.49	10.42	03/01/2014
IM ACWI Ex US Growth (SA+CF) Median	6.88	37.39	37.39	13.28	14.89	9.29	9.37	22.06	29.57	-13.78	32.56	-0.76	9.55	
Rank	69	46	46	73	31	22	N/A	24	42	100	6	79	29	
BlackRock MSCI ACW Ex US Sm Cap Index (CF) - Net	6.42	46.90	46.90	9.98	12.23	7.34	N/A	14.45	22.68	-17.85	31.96	4.26	9.25	02/01/2012
MSCI ACWI Ex US Sm Cap Index IMI (USD) (Net)	6.35	47.04	47.04	9.78	11.97	7.07	7.02	14.24	22.42	-18.20	31.65	3.91	9.02	
Difference	0.07	-0.14	-0.14	0.20	0.26	0.27	N/A	0.21	0.26	0.35	0.31	0.35	0.23	
BlackRock MSCI ACW Ex US Sm Cap Index (CF) - Gross	6.45	47.08	47.08	10.11	12.38	7.49	N/A	14.50	22.90	-17.74	32.15	4.44	9.42	02/01/2012
DFA Intl Sm Co;l (DFISX) - Net	5.91	44.99	44.99	7.86	11.20	6.62	7.52	9.24	24.21	-19.41	30.24	5.74	8.39	11/01/2004
MSCI Wrld Ex US Sm Cap Index (USD) (Net)	4.81	42.28	42.28	8.92	11.88	7.20	7.66	12.78	25.41	-18.07	31.04	4.32	8.12	
Difference	1.10	2.71	2.71	-1.06	-0.68	-0.58	-0.14	-3.54	-1.20	-1.34	-0.80	1.42	0.27	
Templeton Investment Counsel (SA) - Net	6.75	47.16	47.16	8.84	11.83	6.55	N/A	9.98	24.17	-18.48	33.07	-1.13	6.81	03/01/2014
Templeton Custom Index	6.35	47.04	47.04	9.78	11.99	6.45	6.77	14.24	22.42	-19.75	29.72	8.24	6.78	
Difference	0.40	0.12	0.12	-0.94	-0.16	0.10	N/A	-4.26	1.75	1.27	3.35	-9.37	0.03	
Templeton Investment Counsel (SA) - Gross	6.96	48.37	48.37	9.76	12.78	7.48	N/A	10.91	25.20	-17.78	34.21	-0.23	7.74	03/01/2014
IM ACWI Ex US Value (SA+CF) Median	4.18	40.87	40.87	8.84	11.64	5.91	6.54	6.65	21.34	-14.78	26.02	4.87	5.89	
Rank	7	19	19	44	34	25	N/A	35	26	84	8	89	27	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. See the Addendum for custom index specification.



Montana Board of Investments
Comparative Performance
International Equity Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
International Emerging Equity														
BlackRock MSCI Emg Mkts Index NL (CF) - Net	4.99	40.29	40.29	10.98	12.76	6.09	N/A	17.92	18.12	-14.69	37.05	10.85	5.47	02/01/2012
MSCI Emg Mkts Index (USD) (Net)	5.05	40.90	40.90	11.27	13.03	6.35	4.29	18.31	18.44	-14.58	37.28	11.19	5.73	
Difference	-0.06	-0.61	-0.61	-0.29	-0.27	-0.26	N/A	-0.39	-0.32	-0.11	-0.23	-0.34	-0.26	
BlackRock MSCI Emg Mkts Index NL (CF) - Gross	5.02	40.44	40.44	11.10	12.89	6.24	N/A	18.04	18.25	-14.60	37.16	11.08	5.63	02/01/2012
iShares:MSCI Em Mkts (EEM) - Net	3.85	39.83	39.83	10.68	N/A	N/A	N/A	16.99	18.12	-16.45	36.86	N/A	12.43	01/01/2017
MSCI Emg Mkts Index (USD) (Net)	5.05	40.90	40.90	11.27	13.03	6.35	4.29	18.31	18.44	-14.58	37.28	11.19	13.46	
Difference	-1.20	-1.07	-1.07	-0.59	N/A	N/A	N/A	-1.32	-0.32	-1.87	-0.42	N/A	-1.03	
DFA Emg Mkts Sm Cap;I (DEMSX) - Net	10.57	55.52	55.52	11.68	N/A	N/A	N/A	13.79	14.88	-17.56	N/A	N/A	11.70	02/01/2017
MSCI Emg Mkts Sm Cap Index (USD) (Net)	11.25	63.75	63.75	12.31	11.86	6.29	4.55	19.29	11.51	-18.59	33.84	2.28	12.13	
Difference	-0.68	-8.23	-8.23	-0.63	N/A	N/A	N/A	-5.50	3.37	1.03	N/A	N/A	-0.43	

Gross of fees performance is not available (N/A) for the following funds: iShares:MSCI EAFE ETF (EFA), International Equity Pool STIF, DFA Intl Sm Co;I (DFISX), iShares:MSCI Em Mkts (EEM), and DFA Emg Mkts Sm Cap;I (DEMSX).

The current annual expense ratios for the iShares:MSCI EAFE ETF (EFA), DFA Intl Sm Co;I (DFISX), iShares:MSCI Em Mkts (EEM), and DFA Emg Mkts Sm Cap;I (DEMSX) are 0.32%, 0.44%, 0.68%, and 0.60%, respectively.

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. A peer group of similar managers may not exist for all funds. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. See the Addendum for custom index specification.

Montana Board of Investments
 Comparative Performance
 Core Fixed Income Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
US Fixed Income Aggregate - Net	1.84	-0.52	-0.52	N/A	N/A	N/A	N/A	7.65	N/A	N/A	N/A	N/A	3.72	12/01/2019
Bloomberg US Agg Bond Index	1.83	-0.34	-0.34	5.34	3.03	3.28	3.39	7.51	8.72	0.01	3.54	2.65	3.57	
Difference	0.01	-0.18	-0.18	N/A	N/A	N/A	N/A	0.14	N/A	N/A	N/A	N/A	0.15	
Reams Asset Core Plus (SA) - Net	1.84	2.15	2.15	8.33	4.92	4.69	4.78	17.14	8.08	1.31	3.21	4.18	6.02	10/01/2008
Reams Custom Index	1.96	1.12	1.12	5.53	3.37	3.46	3.69	7.58	8.72	0.01	3.83	3.91	4.57	
Difference	-0.12	1.03	1.03	2.80	1.55	1.23	1.09	9.56	-0.64	1.30	-0.62	0.27	1.45	
Reams Asset Core Plus (SA) - Gross	1.89	2.33	2.33	8.53	5.11	4.88	4.97	17.35	8.28	1.49	3.38	4.35	6.21	10/01/2008
IM U.S. Broad Market Core+ FI (SA+CF) Median	2.24	3.37	3.37	6.68	4.44	4.20	4.59	8.96	9.87	-0.24	4.78	4.67	5.87	
Rank	89	71	71	4	24	14	29	2	93	4	95	57	34	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.



Montana Board of Investments
Comparative Performance
Non-Core Fixed Income Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Neuberger Berman High Yield (SA) - Net	2.84	14.80	14.80	7.05	6.67	4.77	6.09	6.30	13.75	-1.99	5.80	14.98	7.09	01/01/2010
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	7.50	
Difference	0.10	-0.54	-0.54	-0.37	-0.80	-0.70	-0.56	-0.75	-0.57	0.09	-1.70	-2.15	-0.41	
Neuberger Berman High Yield (SA) - Gross	2.85	15.17	15.17	7.48	7.11	5.22	6.55	6.75	14.26	-1.56	6.27	15.50	7.56	01/01/2010
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.64	7.49	14.07	7.58	
Rank	34	47	47	46	62	60	56	43	50	49	79	33	52	
Oaktree US High Yield (SA) (CAPP) - Net	2.66	14.30	14.30	7.21	N/A	N/A	N/A	6.56	15.44	-3.99	N/A	N/A	5.79	01/01/2018
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	6.38	
Difference	-0.08	-1.04	-1.04	-0.21	N/A	N/A	N/A	-0.49	1.12	-1.91	N/A	N/A	-0.59	
Oaktree US High Yield (SA) (CAPP) - Gross	2.75	14.82	14.82	7.73	N/A	N/A	N/A	7.07	16.02	-3.47	N/A	N/A	6.31	01/01/2018
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	6.22	
Rank	41	50	50	34	N/A	N/A	N/A	39	16	92	N/A	N/A	49	
Shenkman High Yield Fixed Income (SA) (CAPP) - Net	2.52	13.02	13.02	6.96	N/A	N/A	N/A	6.32	13.65	-1.96	N/A	N/A	5.57	12/01/2017
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	6.31	
Difference	-0.22	-2.32	-2.32	-0.46	N/A	N/A	N/A	-0.73	-0.67	0.12	N/A	N/A	-0.74	
Shenkman High Yield Fixed Income (SA) (CAPP) - Gross	2.64	13.54	13.54	7.46	N/A	N/A	N/A	6.82	14.18	-1.46	N/A	N/A	6.07	12/01/2017
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	6.25	
Rank	53	66	66	46	N/A	N/A	N/A	42	52	46	N/A	N/A	55	
Cohen & Steers Preferred Securities (SA) - Net	2.97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.45	11/01/2020
Cohen & Steers Preferred Securities Custom Benchmark	2.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.56	
Difference	0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.89	
Cohen & Steers Preferred Securities (SA) - Gross	3.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.71	11/01/2020
Payden & Rygel EMD (SA) - Net	4.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.12	01/01/2021
Payden & Rygel EMD Custom Benchmark	3.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.48	
Difference	0.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.36	
Payden & Rygel EMD (SA) - Gross	4.47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.95	01/01/2021
IM Emerging Markets Debt (SA+CF) Median	3.83	9.86	9.86	6.68	5.20	3.83	4.85	6.71	14.23	-5.33	12.43	11.04	-0.68	
Rank	22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	57	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences. No peer group is shown for Cohen & Steers Preferred Securities (SA) due to the lack of suitable Preferred Securities peer groups.



Montana Board of Investments
Comparative Performance
TFIP Fixed Income Managers

As of June 30, 2021

	QTD/ CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Trust Funds Investment Pool Fixed Income	2.09	1.39	1.39	6.19	3.63	3.93	4.17	8.84	9.12	0.25	3.83	3.44	5.93	10/01/1995
Bloomberg US Agg Bond Index	1.83	-0.34	-0.34	5.34	3.03	3.28	3.39	7.51	8.72	0.01	3.54	2.65	5.11	
Difference	0.26	1.73	1.73	0.85	0.60	0.65	0.78	1.33	0.40	0.24	0.29	0.79	0.82	
Trust Funds Investment Pool Fixed Income	2.09	1.39	1.39	6.19	3.63	3.93	4.17	8.84	9.12	0.25	3.83	3.44	5.93	10/01/1995
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	1.97	1.05	1.05	6.07	3.67	3.80	3.96	8.52	9.19	0.07	4.03	3.10	5.55	
Rank	36	40	40	40	56	41	35	37	55	32	62	42	12	
Shenkman High Yield Fixed Income (SA) (TFIP) - Net	2.58	13.07	13.07	N/A	N/A	N/A	N/A	6.05	N/A	N/A	N/A	N/A	6.55	07/01/2019
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	7.39	
Difference	-0.16	-2.27	-2.27	N/A	N/A	N/A	N/A	-1.00	N/A	N/A	N/A	N/A	-0.84	
Shenkman High Yield Fixed Income (SA) (TFIP) - Gross	2.70	13.59	13.59	N/A	N/A	N/A	N/A	6.54	N/A	N/A	N/A	N/A	7.05	07/01/2019
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	7.34	
Rank	47	65	65	N/A	N/A	N/A	N/A	49	N/A	N/A	N/A	N/A	59	
Oaktree US High Yield (SA) (TFIP) - Net	2.60	14.36	14.36	N/A	N/A	N/A	N/A	6.72	N/A	N/A	N/A	N/A	7.44	08/01/2019
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	7.41	
Difference	-0.14	-0.98	-0.98	N/A	N/A	N/A	N/A	-0.33	N/A	N/A	N/A	N/A	0.03	
Oaktree US High Yield (SA) (TFIP) - Gross	2.69	14.88	14.88	N/A	N/A	N/A	N/A	7.25	N/A	N/A	N/A	N/A	7.94	08/01/2019
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	7.34	
Rank	48	50	50	N/A	N/A	N/A	N/A	35	N/A	N/A	N/A	N/A	32	
Neuberger Berman High Yield (SA) (TFIP) - Net	2.76	14.85	14.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.78	04/01/2020
Bloomberg US HY 2% Issuer Cap Index	2.74	15.34	15.34	7.42	7.47	5.47	6.65	7.05	14.32	-2.08	7.50	17.13	21.09	
Difference	0.02	-0.49	-0.49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.31	
Neuberger Berman High Yield (SA) (TFIP) - Gross	2.77	15.23	15.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.17	04/01/2020
IM U.S. High Yield Bonds (SA+CF) Median	2.67	14.71	14.71	7.31	7.31	5.38	6.63	6.52	14.25	-1.66	7.49	14.07	19.90	
Rank	40	47	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	

Net performance shown is net of all manager fees and expenses (Net-All). Gross returns are compared to median performance of similar managers. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Trust Accounts

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Abandoned Mine Trust	0.03	0.07	0.22	1.45	1.24	1.23	1.34	0.73	2.41	1.85	1.04	1.10	3.81	12/01/1993
Barker Hughesville St Response	1.91	-0.24	1.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.88	05/01/2020
Belt Water Treatment Plant Fund	1.86	-0.23	1.42	5.50	N/A	N/A	N/A	6.80	8.56	N/A	N/A	N/A	5.11	03/01/2018
Big Sky Economic Development Fund	2.01	-0.24	1.50	5.65	3.60	3.98	4.32	7.12	8.67	0.48	3.97	3.98	4.92	07/01/2005
Butte Area One Restoration	1.70	-0.15	1.29	4.75	3.13	3.10	3.01	6.07	6.76	1.24	2.92	2.60	3.45	11/01/2008
Clark Fork River Restoration	1.61	-0.18	1.22	4.61	3.04	3.11	3.15	5.65	7.04	0.96	2.85	2.72	3.72	11/01/2008
Coal Tax Cultural Trust Fund	1.95	-0.23	1.48	5.61	3.57	3.95	4.30	6.99	8.64	0.47	3.96	3.95	5.97	12/01/1993
Coal Tax Park Acquisition	1.89	-0.23	1.44	5.55	3.54	3.92	4.26	6.86	8.63	0.48	3.96	3.90	5.94	12/01/1993
East Helena Compensation Fund	0.39	0.05	0.48	3.17	2.25	2.29	N/A	2.65	5.52	1.20	2.56	2.12	2.09	01/01/2013
East Helena Greenway Trail Maintenance	1.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.35	03/01/2021
Endowment for Children	1.97	-0.25	1.50	5.57	3.55	3.86	4.21	7.01	8.54	0.46	3.89	3.66	4.95	08/01/2007
Flying J CECRA Facilities Fund	1.90	-0.24	1.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.93	05/01/2020
FWP License Account	0.84	-0.22	0.36	2.04	1.50	1.31	1.21	1.85	3.33	1.50	1.11	0.84	2.86	11/01/1997
FWP Mitigation Trust Fund	1.40	-0.17	0.89	3.49	2.20	1.90	1.80	3.84	5.46	1.14	1.15	0.67	3.84	12/01/1993
FWP Real Property Trust	1.89	-0.23	1.43	5.54	3.53	3.86	4.17	6.83	8.62	0.51	3.80	3.82	5.35	12/01/1993
Group Benefits	0.46	0.13	0.57	2.47	1.72	1.64	1.53	2.05	4.01	1.37	1.30	1.16	3.79	12/01/1993
Harold Hamm Endowment	1.89	-0.19	1.45	5.47	3.34	N/A	N/A	6.71	8.45	0.57	1.11	N/A	3.34	07/01/2016
Invasive Species Trust Fund	1.66	-0.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.44	10/01/2020
Libby Asbestos Site State Cost	1.83	-0.29	1.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.87	05/01/2020
Luttrell Pit - Operational & Maintenance	1.90	-0.24	1.31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.83	05/01/2020
Montana Pole	1.51	-0.16	1.18	4.77	3.12	3.36	3.60	5.61	7.48	0.74	3.38	3.23	5.06	09/01/1996
Montana State University	0.18	0.06	0.37	1.80	1.53	1.30	1.16	1.30	2.87	1.87	1.39	0.95	1.96	08/01/2004
Montana Tech-UM Agency Funds	0.12	0.06	0.28	1.58	1.40	1.12	0.92	1.01	2.56	1.91	1.22	0.72	1.75	03/01/2003
MT BOI - Clark Fork Site	1.93	-0.21	1.43	5.28	3.40	3.66	3.75	6.65	8.00	0.67	3.64	3.63	4.36	11/01/2008
MT BOI UOFM Other	0.68	0.03	1.15	3.13	2.23	2.27	2.12	3.47	4.54	1.42	2.15	2.34	2.95	08/01/2002
MUS Group Insurance	0.30	0.01	0.39	2.09	1.62	1.59	N/A	1.70	3.39	1.96	1.09	1.33	1.42	10/01/2011
MUS Workers Compensation	0.55	-0.03	0.58	2.73	2.02	N/A	N/A	2.55	4.43	1.62	1.80	N/A	2.02	04/01/2016

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Montana Board of Investments
Comparative Performance
Trust Accounts

As of June 30, 2021

	QTD	CYTD	FYTD/ 1 Year	3 Years	5 Years	7 Years	10 Years	2020	2019	2018	2017	2016	Since Incep.	Inception Date
Older Montanans Trust	1.97	-0.25	1.47	5.65	3.60	3.93	3.93	7.19	8.62	0.49	3.87	3.86	4.81	08/01/2007
Permanent Coal Trust Excl Crp	1.64	0.40	1.87	4.73	3.34	3.67	4.06	5.57	6.81	1.28	3.49	3.79	5.65	12/01/1993
PERS Defined Cont Disability	5.57	8.82	27.46	12.32	11.05	N/A	N/A	14.06	20.77	-4.88	14.57	3.42	9.42	09/01/2015
Potter Trust Fund	1.91	-0.22	1.46	5.48	3.50	N/A	N/A	6.78	8.47	0.51	3.87	N/A	3.79	06/01/2016
Resource Indemnity Trust	2.04	-0.24	1.52	5.76	3.65	4.03	4.38	7.23	8.88	0.44	4.01	4.02	6.05	12/01/1993
School Facilities Fund	1.96	-0.25	1.46	5.29	N/A	N/A	N/A	6.97	7.88	-0.13	N/A	N/A	4.06	01/01/2018
Smelter Hill Up Restorative	1.73	-0.19	1.27	4.13	2.80	2.56	2.35	5.62	5.64	1.57	1.85	1.79	2.47	11/01/2008
State Fund Insurance	2.05	1.50	5.61	6.47	4.70	4.48	4.70	7.62	9.65	0.38	5.05	3.50	5.64	12/01/1993
Streamside Tailings Operable Unit	1.72	-0.20	1.40	5.19	3.35	3.67	3.95	6.47	7.92	0.57	3.69	3.58	5.28	02/01/1999
Subsequent Injury Fund	0.03	0.07	0.22	1.39	1.30	1.00	0.77	0.73	2.28	1.98	1.11	0.61	2.94	12/01/1993
Tobacco Trust Fund	1.98	-0.21	1.53	5.66	3.59	3.98	4.33	7.10	8.67	0.46	3.96	3.99	5.57	01/01/2001
Treasurers	0.03	0.07	0.18	1.36	1.26	1.01	0.78	0.63	2.28	1.97	1.07	0.68	2.78	12/01/1993
Treasure State Endowment	2.02	-0.24	1.51	5.71	3.63	4.01	4.35	7.15	8.81	0.46	4.00	3.98	5.92	12/01/1993
Treasure State Reg. Water System	2.02	-0.24	1.51	5.71	3.63	4.00	4.34	7.15	8.80	0.45	4.00	3.96	5.72	06/01/2000
Trust and Legacy Account	2.03	-0.24	1.52	5.73	3.64	4.02	4.35	7.19	8.84	0.43	4.00	4.01	6.61	07/01/1991
UCFRB Assess/Litig Cost Rec	2.02	-0.17	1.45	5.47	3.48	3.81	4.08	6.68	8.50	0.49	3.77	3.84	5.63	07/01/1999
UCFRB Restoration Fund	1.93	-0.26	1.42	5.54	3.56	3.81	4.11	6.90	8.52	0.67	3.73	3.52	5.54	06/01/1999
Upper Blackfoot Response	0.25	0.05	0.36	2.36	1.77	1.77	1.62	1.55	4.24	1.49	1.90	1.74	1.60	09/01/2010
Weed Control Trust	2.04	-0.24	1.52	5.76	3.65	4.03	4.32	7.23	8.88	0.44	4.01	4.02	5.24	12/01/1993
Wildlife Habitat Trust	1.86	-0.22	1.43	5.50	3.49	3.83	4.15	6.75	8.54	0.51	3.78	3.79	5.36	12/01/1993
Yellowstone Pipeline Cleanup Fund	0.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.66	04/01/2021
Zortman/Landusky LT H2O	0.03	0.07	0.22	1.39	1.26	1.22	2.17	0.73	2.28	1.98	1.01	1.36	6.14	09/01/1999
Z/L Long Term H2O Trust Fund	0.03	0.07	0.22	1.39	1.27	1.30	2.06	0.73	2.28	1.98	1.08	1.39	4.03	09/01/2005

Performance shown is gross of fees. Fiscal year ends on 06/30. Since inception performance may vary from State Street reported performance due to calculation methodology differences.

Performance Notes

- All gross and net performance data is provided by State Street Analytics (SSA). Reported gross returns for the retirement plans prior to 07/01/2002 are net of all fees.
- Gross performance for the retirement plans is calculated with fee accruals provided by Montana's Accounting department.
- Gross of fees performance is not available (N/A) for the following funds: SPDR S&P 500 ETF (SPY), Domestic Equity Pool STIF, iShares:Core S&P Md-Cp (IJH), iShares:Russ 2000 ETF (IWM), DFA Intl Sm Co;I (DFISX), iShares:MSCI EAFE ETF (EFA), International Equity Pool STIF, iShares:MSCI Em Mkts (EEM), and DFA Emg Mkts Sm Cap;I (DEMSX). The current annual expense ratios are as listed below.

Index Notes

- Retirement plan custom benchmarks are provided by State Street Bank and are calculated daily using actual allocations.
- The CAPP Custom Benchmark consists of the portfolio weighted average of the primary benchmark for each CAPP asset class.
- The Short Term Custom Benchmark consists of 100% ICE 1 Mo LIBOR Index (USD) through 4/30/2018, and 100% Federal Reserve US Treasury 1 Mo Constant Maturity Index thereafter.
- The Domestic Equity Custom Index consists of 100% S&P 1500 Comp Index through 04/30/2017 and 100% MSCI USA IM Index (USD) (Gross) thereafter.
- The International Equity Custom Index consists of 100% MSCI EAFE Index (USD) (Net) through 10/31/2006, 100% MSCI ACW Ex US Index (USD) (Net) through 06/30/2007, 92.5% MSCI ACW Ex US Index (USD) (Net) and 7.5% MSCI ACW Ex US SC IM Index (USD) (Net) through 02/28/2014, and 100% MSCI ACW Ex-US IM Index thereafter.
- The Real Estate Custom Index consists of 100% NCREIF ODCE Index (AWA) (Net) (1 Qtr Lag) through 03/31/2017, 100% MSCI US REIT Index (USD) (Gross) through 06/30/2020, and 100% NCREIF ODCE Value Weighted (1 Qtr Lag) Index thereafter.
- The Private Investments Custom Index consists of 100% S&P 1500 Comp Index+4% (1 Qtr Lag) through 03/31/2017, 100% MSCI US Small Cap Index (USD) (Gross) through 12/31/2020, and the portfolio weighted MSCI US SC / S&P LSTA US Leverage Loan 100 Index for PE / PC thereafter.
- The Lazard Custom Index consists of 100% MSCI ACW Ex US Value Index (USD) (Net) through 6/30/2018 and 100% MSCI ACW Ex US Index (USD) (Net) thereafter.
- The Templeton Custom Index consists of 100% MSCI ACW Ex US Small Cap Value Index (USD) (Net) through 5/31/2018, and 100% MSCI ACW Ex US Small Cap Index (USD) (Net) thereafter.
- The Reams Custom Index consists of 100% Bloomberg US Unv Bond Index through 03/31/2017, 100% Bloomberg US Agg Bond Index through 12/31/2019, and 100% Bloomberg US Unv Bond Index thereafter.
- The Cohen & Steers Custom Index consists of 60% ICE BofAML US IG Institutional Capital Securities Index, 20% ICE BofAML Core Fixed Rate Preferred Securities Index, and 20% Bloomberg Barclays Developed Market USD Contingent Capital Index.
- The Payden & Rygel Custom Index consists of 70% JP Morgan EMBI Global Diversified Index, 30% JP Morgan GBI-EM Global Diversified Index.
- The JPM US Equity Custom Benchmark consists of 100% S&P 500 Index (Cap Weighted) through 06/30/2019 and 100% MSCI US Index (USD) (Gross) thereafter.
- The Real Assets Custom Index consists of 100% MSCI All Country World Commodity Producers Index (USD) (Net) through 12/31/2020 and 33.33% MSCI All Country World Commodity Producers Index (USD) (Net), 33.33% MSCI All Country World Infrastructure Index, 33.33% Bloomberg Barclays Global Inflation Linked US TIPS Index thereafter.
- The Core Fixed Income Custom Index consists of 100% Bloomberg US Agg Bond Index through 03/31/2017, the portfolio weighted average of Broad Fixed Income - PAC Custom Blend, Bloomberg US Corp Inv Grade Index, Bloomberg US MBS Index, Bloomberg US Int TIPS Index, Bloomberg US Trsy Int Trm Index through 11/30/2019, and 100% Bloomberg US Agg Bond Index thereafter.

Trust Accounts Comments

- Barker Hughesville St Response, Libby Asbestos Site State Cost, Flying J CECRA Facilities Fund, and Luttrell Pit - Operations and Maintenance were added in 05/2020.
- The Belt Water Treatment Plant Fund was added in 03/2018.
- The School Facilities Fund was added in 01/2018.
- The Potter Trust Fund and the Harold Hamm Endowment were added in 06/2016.
- MUS Workers Compensation was added in 04/2016.
- The Invasive Species Trust Fund was added in 10/2020.
- The East Helena Greenway Trail Maintenance Fund was added in 03/2021.
- The Yellowstone Pipeline Cleanup Fund was added in 04/2021.

Manager Transition Comments

- Neuberger Berman High Yield (SA) and TFIP Private Real Estate were funded in the Trust Fund Investment Pool during Q1 2020.
- Post High Yield Plus (SA), GMO:Bchmk-Fr All;III (GBMFX), and PIMCO:All Asset;Inst (PAAIX) were liquidated during Q3 2019.
- Oaktree US High Yield Fixed Income (SA) and Shenkman High Yield Fixed Income (SA) were funded in the Trust Fund Investment Pool during Q3 2019.
- Artisan Partners (SA), Iridian Asset Management (SA), Congress Mid Cap Growth (SA), TimeSquare Capital Management (SA), and Alliance Bernstein (SA) were liquidated in Q2 2019.
- BlackRock MSCI US Equity Index (CF) was transitioned into a separately managed account during Q1 2019.

Manager Transition Comments (cont.)

- Northern Trust MSCI US Equity Index (SA), GMO:Bchmk-Fr All;III (GBMFX), and PIMCO:All Asset;Inst (PAAIX) were funded during Q4 2018.
- Voya Investment Management (SA) was liquidated in 07/2018.
- iShares:Russ 2000 ETF (IWM) was funded in 04/2018.
- Jacobs Levy 130/30 Large Cap (SA) was funded in 03/2018.
- Congress Mid Cap Growth (SA) was funded in 02/2018.
- Oaktree US High Yield (SA) and Shenkman High Yield Fixed Income (SA) were funded in 12/2017.
- Analytic Investors 130/30 (SA) was liquidated in 09/2017.
- BlackRock MSCI US Equity Index (CF), BlackRock MSCI US Sm Cap Equity Index (CF), and iShares:Core S&P Md-Cp (IJH) were funded in 06/2017.
- SPDR S&P 500 ETF (SPY) and iShares:MSCI EAFE ETF (EFA) were re-funded in 06/2017.
- INTECH Enhanced Plus was liquidated in 06/2017.
- Residual assets from the liquidation of AllianceBernstein Int'l Value (SA), Martin Currie (SA), Hansberger Global Investors (SA), and Aberdeen Total Return Bond Strategy (SA) were distributed in 06/2017.
- BlackRock Equity Index Fund A (CF) and BlackRock Mid Cap Equity Index A (CF) were liquidated in 05/2017.
- DFA Emg Mkts Sm Cap;I (DEMSX) was funded in 02/2017.
- SPDR S&P 500 ETF (SPY) was liquidated in 01/2017.
- iShares:MSCI Em Mkts (EEM) was funded in 12/2016.
- SPDR S&P 500 ETF (SPY) was initially funded in 09/2015, was then liquidated in 12/2015, and was re-funded in 10/2016.
- Wells Capital Management (SA), Domestic Equity Pool SPIF, and International Equity Pool SPIF were liquidated in 10/2016. Wells Capital Management (SA) residual assets from liquidation were distributed in 03/2017.
- Nicholas Investment Partners was liquidated in 07/2016. Residual assets from liquidation were distributed in 03/2017.
- Effective 07/2016, the Metropolitan West Capital Management legal entity merged into the Wells Capital Management Incorporated legal entity. The Metropolitan West Capital Mgmt (SA) has been updated to Wells Capital Management (SA) to reflect the change.
- iShares S&P SmallCap 600 Index ETF (IJR) was liquidated in 01/2016.
- Effective 05/2014, ING rebranded to Voya. The ING Investment Management (SA) has been updated to Voya Investment Management (SA) to reflect the change.
- Cohen & Steers Preferred Securities (SA) was funded in 10/2020.
- Payden & Rygel EMD (SA) was funded in 12/2020.

Miscellaneous Comments

- Fiscal year ends on 06/30.
- During Q4 2019 Diversifying Strategies investments were liquidated and Investment Grade Credit, US Treasury & Agency, and TIPS were consolidated into the Core Fixed Income composite.
- Non-Core Fixed Income currently consists of High Yield and EMD.
- Private Investments currently consist of Private Equity, Private Credit, Venture Capital, and Passive ETFs.
- During Q1 2021 the Natural Resources PAC was renamed to the Real Assets PAC.

Montana Board of Investments
 Fee Schedule

As of June 30, 2021

	Fee Schedule	Market Value As of 06/30/2021 (\$)
SPDR S&P 500 ETF (SPY)	0.09 % of Assets	22,800,039
iShares:Core S&P Md-Cp (IJH)	0.05 % of Assets	39,080,598
iShares:Russ 2000 ETF (IWM)	0.19 % of Assets	1,147
iShares:MSCI EAFE ETF (EFA)	0.32 % of Assets	163,597,120
DFA Intl Sm Co;I (DFISX)	0.44 % of Assets	115,772,017
iShares:MSCI Em Mkts (EEM)	0.68 % of Assets	64,542,045
DFA Emg Mkts Sm Cap;I (DEMSX)	0.60 % of Assets	38,069,348

ETF fees are sourced from Morningstar and/or the investment manager. Mutual Fund fees are provided by staff.



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