

NEW HAMPSHIRE RETIREMENT SYSTEM

BOARD MEETING

Tuesday, October 10, 2023

Agenda

- | | | | |
|------------|---|----------------|--|
| 10:00 a.m. | 1. Ascertain Quorum and Call to Order | | T. Lesko |
| 10:05 a.m. | 2. Approval of Minutes | (Tab 1) | T. Lesko |
| | <ul style="list-style-type: none"> ○ September 12, 2023
(Action Expected) | | |
| 10:10 a.m. | 3. Standing Committee Reports | | |
| | <ul style="list-style-type: none"> • Audit (Tab 2) • Governance (Tab 3) • Investments (Tab 4) <ul style="list-style-type: none"> ○ IIC Monthly Report ○ Callan Monthly Review (8/31/23) ○ Callan Quarterly Review • Legislative (Tab 5) <ul style="list-style-type: none"> ○ 2021 HB 2 PLR Update • Benefits (Tab 6) <ul style="list-style-type: none"> ○ Gainful Occupation Report
(Action Expected) • PPCC (Tab 7) | | M. Mezzapelle
D. Roy
M. Kelliher
R. Leveque
K. Merrifield
G. Martins
S. Hannan |
| 10:40 a.m. | 4. Callan Presentation – CMAs | (Tab 8) | Jay Kloepper/
Angel Haddad |
| 11:10 a.m. | 5. Operating Reports | | |
| | <ul style="list-style-type: none"> • Executive (Tab 10) <ul style="list-style-type: none"> ○ Call Firefighter Funding • Investments (Tab 11) • Human Resources (Tab 12) • Legal (Tab 13) • PIO (Tab 14) • IT (Tab 15) | | J. Goodwin
R. Leveque
R. Cain
T. Crutchfield
M. Karlon
J. Laferriere |

11:40 a.m.	6.	AI Chat-Bot Demonstration	(Tab 16)	J. Laferriere
11:55 a.m.	7.	Consent Agenda (Action Expected)	(Tab 17)	T. Lesko
12:00 p.m.	8.	Trustee Travel	(Tab 18)	T. Lesko
12:05 p.m.	9.	Action Items – September 12, 2023	(Tab 19)	J. Goodwin
12:10p.m.	10.	Board Checkpoint Discussion	(Tab 20)	T. Lesko
12:15 p.m.	11.	Adjournment		T. Lesko
	12.	Informational Materials	(Tab 21)	

Executive Summary of Board Actions Q1 FY24
Quarterly Report to the General Court
NHRS Quarterly Compliance Notice to LBA
2023 Board Action Calendar
Committee Membership
Trustee Confidential Contact Information
Trustee Appointments and Terms
NHRS Conference Resource List
NHRS Acronyms

Remote access information will be provided in advance of the meeting at:

<https://www.nhrs.org/meetings-events/event/2023/10/10/default-calendar/board-of-trustees-meeting>

The following email will be monitored throughout the meeting by someone who can assist with and alert the Board to any technical issues:

publicrelations@nhrs.org (or call 603-410-3648)

NHRS Board of Trustees

DRAFT Minutes – September 12, 2023

Note: These **draft** minutes from the September 12, 2023, Public Session are subject for approval at a subsequent Board of Trustees meeting.

Board of Trustees

September 12, 2023

DRAFT Public Minutes

**New Hampshire Retirement System
54 Regional Drive
Concord, New Hampshire 03301**

Participating: *Tim Lesko, Chair; Trustees Jon Frederick, Sue Hannan, Jason Henry, Maureen Kelliher, Robert Maloney, Andrew Martineau, Germano Martins, Ken Merrifield, Monica Mezzapelle, Paul Provost, Don Roy, and Joshua Quigley.*

Staff: *Jan Goodwin, Executive Director; Timothy Crutchfield, Deputy Director and Chief Legal Counsel; Raynald Leveque, Chief Investment Officer; John Laferriere, Director of IT; Marty Karlon, Director of Communications and Legislative Affairs; Mark F. Cavanaugh, Associate Counsel and Compliance Officer; Heather Hoffacker, Internal Auditor; Nina Calkins, Administrative and Contact Center Manager; Tracy Knight, Project Manager; Greg Richard, Senior Investment Officer; Shana Bilech, Investment Officer; Diana Crichton, Hearings Examiner; and Christine McKenney, Communications Specialist.*

Chair Tim Lesko called the September 12, 2023, regular meeting of the NHRS Board of Trustees to order at 10:30 a.m. and after establishing a quorum, he called for a vote to approve the meeting minutes of the August 8, 2023, Board meeting. On a motion by Trustee Maloney, seconded by Trustee Henry, the Board voted unanimously to approve the meeting minutes.

At 10:33 a.m., Trustee Quigley joined the meeting.

Trustee Mezzapelle presented the report of the Audit Committee, which met earlier this morning. The Committee reviewed the outstanding items in Internal Audit, which are on hold through January due to PGV3 preparation. She referred to the Fiscal Year (FY) 2024 Audit Plan, noting that Internal Audit has begun two new audits: one on Benefits Administration, and the other on Right-to-Know Requests. She reported the GASB Census Data Audits have been completed and submitted to Plante Moran for review. Finance provided a brief update to the Committee on External Audit items, which are on schedule. In closing, Trustee Mezzapelle mentioned the Committee finalized the review of its Audit Policy and Charter and voted to recommend to the Board that it approve a revision in the Charter regarding meetings under RSA 100-A:14-a.

On a motion by Trustee Roy, seconded by Trustee Frederick, the Board voted unanimously to accept the recommendation of the Audit Committee to approve the revision to the Committee charter, as presented.

Trustee Roy gave an update on the Governance Committee, which met on August 23, and voted on several items to recommend for Board approval. Trustee Roy presented the four items: the Committee's revised charter with regard to meetings; minor grammatical and clarifying edits to

the Office of Foreign Asset Control (OFAC) Policy, noting there were no violations in this year's review; an increase to the dollar amount limit under the Executive Director's discretion in the Procurement Policy; and, the 2024 Board meeting calendar, as discussed at the August Board meeting, to meet bi-monthly.

On a motion by Trustee Martins, seconded by Trustee Frederick, the Board voted unanimously to approve the recommendation of the Governance Committee to accept the revised Governance Committee Charter, as presented.

On a motion by Trustee Maloney, seconded by Trustee Roy, the Board voted unanimously to accept the recommendation of the Governance Committee that the Board approve the revisions to the OFAC Policy, as presented.

On a motion by Trustee Mezzapelle, seconded by Trustee Martins, the Board voted unanimously to accept the recommendation of the Governance Committee to approve the revisions to the Procurement Policy, as presented.

There was a robust discussion on the proposed 2024 NHRS meeting schedule, in reference to the meeting day and the delegation of action items to Board subcommittees. On a motion by Trustee Martins, seconded by Trustee Hannan, the Board voted unanimously to approve the 2024 Board Meeting Calendar to meet bimonthly beginning in February, on the second Tuesday of those months.

Trustee Kelliher reported on the August 8 Independent Investment Committee (IIC, Committee) meeting. Chief Investment Officer Raynald Leveque provided an update on investment returns through recent time periods, referring to Callan's June 30, 2023, report. He gave updates on holdings within the NHRS portfolio and confirmed asset allocations are within range. Mr. Leveque also gave updates on liquidity, Russian holdings, and the FY 24 Work Plan. Staff continue to work on the total plan analysis project, including a strategic asset allocation update. Trustee Kelliher reported that the Committee then heard two presentations, one from private credit manager Ares Management (Ares), and the other from fixed income manager Income Research & Management (IR+M). The Committee discussed the presentation from Ares and the opportunity to invest in its Pathfinder Fund II. The Committee voted unanimously to commit \$50 million to Ares Pathfinder Fund II, subject to contract and legal review. Trustee Kelliher mentioned the IR+M presentation was part of its five-year contract renewal, which the Committee will vote on at its meeting today, immediately following the Board meeting. She turned to Mr. Leveque for further updates on portfolio performance.

Mr. Leveque reported on the preliminary performance for NHRS as of July 31, noting the Total Fund net return for the fiscal year-to-date (FYTD) period was 1.68%, and the calendar year-to-date (CYTD) performance was 8.16%. He reported on long-term performance for three, five, and 10-year periods, which had returns of 9.06%, 7.07%, and 7.67%, respectively. Mr. Leveque gave an overview of performance in the individual asset classes. He discussed that the Alternatives still reported 1st quarter returns and noted that 2nd quarter returns would be available next month. The Plan assets are at \$11.6 billion. There was also a discussion to revise the labels of the various investment metrics.

Trustee Merrifield gave an update on the Legislative Committee, which did not meet in August. He mentioned the House filing period for Legislative Service Requests began Monday, September 11, and the Committee plans to monitor any titles relative to NHRS. He noted the House filing period ends Friday, September 15. He mentioned the Senate filing period will occur in the fall. Trustee Merrifield reported on the Retirement Benefits Commission, which plans to meet this Thursday and is expected to discuss the actuarial analysis of two amendments impacting the benefit calculations for Group II, Tier B members. He noted staff

continues to work with LRS on the HB 2 programming for Group I benefits recalculation.

Trustee Merrifield then referred to the Legislative Charter, which the Committee voted to recommend the same revision as other Committees for Board approval.

On a motion by Trustee Hannan, seconded by Trustee Mezzapelle, the Board voted unanimously to accept the recommendation of the Legislative Committee to approve the revision to the Legislative Committee Charter, as presented.

Trustee Merrifield concluded his report by turning to Marty Karlon, Director of Communications and Legislative Affairs, who had nothing more to add but welcomed any questions, but there were none.

Trustee Martins reported on the Benefits Committee, which met August 29, to conduct the annual review of the Independent Medical Examiners (IMEs) that the retirement system uses per the IME Policy. Staff reported there were no disciplinary actions against the three IMEs in the states where they practice. Trustee Martins reported staff are working to increase the number of qualified IMEs to serve the System. He noted staff would present the annual Gainful Occupation report for Committee review prior to the Board's October meeting. Lastly, he referred to the Benefits Committee Charter, which the Committee voted to recommend the same revision to the Board for approval.

On a motion by Trustee Merrifield, seconded by Trustee Roy, the Board voted to accept the recommendation of the Benefits Committee to approve the revision to the Benefit Committee Charter, as presented.

Trustee Hannan reported on the PPCC, which met August 28, and heard staffing updates from Human Resources (HR) Director Rosamond Cain, noting NHRS is recruiting for two open positions in IT and one in Investments. The Committee then discussed Succession Planning, for which an update would ordinarily occur this month. Because of PGV3, Ms. Cain recommended to delay the 2023 update until February 2024 and the Committee agreed with her recommendation. The PPCC performed the annual review of its Charter and voted unanimously to recommend that the Board accept the same revision as to all Committee charters.

On a motion by Trustee Henry, seconded by Trustee Roy, the Board voted unanimously to accept the recommendation of the PPCC to approve the revision to the PPCC Charter, as presented.

Chair Lesko turned to Executive Director Goodwin for her operating report. She began by noting the KPMs were at 98.63% for the month, well above the 95% benchmark, noting the 12-month rolling average was 97.53%. One KPM was missed agency-wide for the month. She provided the latest update on PGV3, which is 84% complete, with Deliverable 7 (My Account-Member Direct) at 100% complete. Ms. Goodwin reported on the Data Reporting System (DRS), which is what employers use to report to NHRS, noting the availability of a "sandbox," or testing area, for employers to get acquainted with the new system. Ms. Goodwin reported staff are preparing for parallel processing, which begins October 9, and an increased effort to obtain XML test files from employers is underway, as well as verification of those files.

Ms. Goodwin announced the plan to add an artificial intelligence (AI) chat bot to the NHRS website to assist stakeholders with questions. She reported that Director of IT John Laferriere is building the bot in-house. A brief question-and-answer session occurred regarding the chat bot's features, availability, and expected cost.

She then discussed federal legislation that prohibits public pension entities from accessing the

Social Security master death file. As a result, NHRS uses research services such as PBI and LexisNexis to verify death benefits. Ms. Goodwin shared with Trustees of her efforts to change the current legislation and allow public pensions access to the Social Security master death file, noting she has garnered support from several public pension groups, including the National Council of Public Employee Retirement Systems (NCPERS), which will take the lead on the proposed federal legislation.

She reported on the status of the retirement system's statutory obligation of providing account statements in September, noting staff are completing the statements, which will be available later this month. She provided an update on the Contact Center and her monthly calls to employers, members, and recent retirees on NHRS' customer service, which continues to receive positive feedback. Lastly, she noted her action plan, and presented the Dashboard report, on behalf of Finance Director Marie Mullen.

Mr. Laferriere opened his report with cyber security awareness, noting IT regularly conducts phishing tests and stated no extra training for staff was necessary in August. He commented on the onboarding of the new Managed Security Service Provider (MSSP), Green Pages, noting the implementation and monitoring of infrastructure security monitors and management of patch deployment. He reported the MSSP has not found new vulnerabilities or threats.

He mentioned IT scored 100% on customer satisfaction and met all eight of its KPMs. He also gave an update on several projects. He noted the recruitment of a temporary project manager to track various IT projects. Mr. Laferriere reported that the AI chat bot has been built and the NHRS Contact Center is developing benefit-related questions and testing the bot to ensure it is providing accurate data only from the NHRS website. A healthy discussion occurred about the chat bot's limitations and capabilities for NHRS. In closing, Mr. Laferriere gave an overview of upcoming projects, and referred to his action plan.

Mr. Leveque gave a brief update on the Investment team, reporting that it achieved seven of the 10 KPMs, adding that three KPMs were not applicable this month. He provided an overview of the agenda for today's IIC meeting, and he referred to his action plan, which is on track, noting that Item 8 is on hold while staff researches the best options.

Ms. Cain gave an update on HR activities, including the recruitment for the open positions in IT and Investments, noting second interviews are scheduled for next week. She reported of another open position for an Administrative Assistant, which is on hold to figure out the details of the position description. She mentioned HR is building a performance appraisal management system through ADP to relieve HR of manually tracking the performance appraisal process. Lastly, she noted HR is training on the compensation module in ADP that will help with the changes in the CBA.

Mr. Crutchfield presented his legal report, beginning with the recent increase in calls from retirees who received notification letters from PBI. He noted Associate Counsel Mark Cavanaugh has handled many escalated calls. He updated the Trustees on the LexisNexis contract negotiations in reference to providing online member authorization to the MyAccount portal, as part of the PGV3 project. He mentioned the annual ethics survey, thanking the Trustees for their responses, noting that a report on the survey results would come before the Audit Committee and the Board in October or November. He noted that Legal achieved all seven of its applicable KPMs for the month. He gave a brief update on the Private Letter Ruling (PLR), which was requested as part of HB 2 in 2021, on the Medical Subsidy payment process, confirming that the PLR has been submitted to the IRS and he expects NHRS would hear from the IRS in the next few months. He also provided an update on his action plan.

Mr. Karlon opened his report with the messaging PIO has been working on to keep employers,

members, and retirees aware of potential delayed processes because of PGV3 and the new My Account. He stated much of the communication on PGV3 will be repeated multiple times through several channels to keep stakeholders abreast of the data system transition. He discussed employer reporting, and the work PIO is doing with Finance and LRS to educate employers on reporting in the new system for active members. PIO and Member Services are collaborating to produce instructional slides on insurance procedures in the DRS and PIO is assisting with scheduling employer training on that, along with one-on-one training with the large health insurance vendors. Lastly, he noted the annual retiree reporting in the new DRS, which isn't due until January. He said PIO will provide education sessions on that in December and January.

He next commented on the Retirement Benefits Commission, noting the proposed amendments that are under review this week are at the expense of the legislature and not NHRS. He listed several other items the Commission is charged to consider before the end of November, including funding for future cost-of-living adjustments (COLAs) and recruitment issues. In closing, he reported on upcoming PGV3 employer education events and an overview of the legislative landscape in anticipation of the 2024 session beginning in January.

Chair Lesko next presented the Consent Agenda. On a motion by Trustee Maloney, seconded by Trustee Martins, the Board voted to approve the Consent Agenda, with Trustee Hannan abstaining from Item 2, and Trustee Quigley abstaining from Item 5.

There were no travel reports or requests.

Ms. Goodwin provided an update on Action Items from the August 8, 2023, Board meeting, noting everything will be completed at the conclusion of today's meeting.

During the Board checkpoint, Chair Lesko noted the Committees are fully represented and reminded Trustees to contact him if they have interest in joining an additional Committee or the desire to switch from one Committee to another.

With no further business to discuss, on a motion by Trustee Hannan, seconded by Trustee Roy, the Board voted unanimously to adjourn the meeting at 11:48 a.m.

Respectfully submitted,

Christine McKenney
Communications Specialist

AUDIT COMMITTEE

GOVERNANCE COMMITTEE*Oral Presentation Only*

Independent Investment Committee's Monthly Report to the Board

NHRS Investment Team
Board of Trustees Meeting
October 10, 2023

Total Plan Performance as of August 31, 2023



The table below details the rates of return for the fund's asset classes over various time periods ended August 31, 2023. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended August 31, 2023									
Composite	Total Fund Weighting As of 8/31/2023	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	30.86%	-2.13%	8.78%	1.52%	14.77%	12.85%	10.80%	8.64%	11.05%
Domestic Equity Benchmark(1)		-1.93%	8.52%	1.59%	18.01%	14.76%	8.98%	10.19%	12.32%
Excess Return		-0.20%	0.26%	-0.07%	-3.24%	-1.91%	1.82%	-1.54%	-1.27%
Total Non US Equity	18.16%	-2.62%	4.95%	-0.18%	13.46%	18.60%	4.52%	3.80%	4.80%
Non US Equity Benchmark(2)		-4.52%	3.82%	-0.63%	8.78%	11.89%	3.99%	3.33%	4.38%
Excess Return		1.89%	1.13%	0.46%	4.68%	6.71%	0.54%	0.47%	0.42%
Total Fixed Income	19.69%	-0.93%	-0.24%	-0.47%	2.34%	0.59%	-2.53%	1.46%	2.27%
Bloomberg Capital Universe Bond Index		-0.60%	-0.66%	-0.50%	1.81%	-0.39%	-3.96%	0.74%	1.77%
Excess Return		-0.33%	0.42%	0.04%	0.53%	0.98%	1.44%	0.72%	0.50%
Total Cash	0.94%	0.45%	1.32%	0.90%	3.30%	4.46%	1.64%	1.74%	1.15%
3-Month Treasury Bill		0.45%	1.31%	0.85%	3.13%	4.25%	1.55%	1.65%	1.07%
Excess Return		0.00%	0.01%	0.04%	0.18%	0.20%	0.09%	0.09%	0.08%
Total Real Estate (Q1)*	11.36%	-0.13%	-2.87%	-0.34%	-6.47%	-5.32%	12.21%	9.44%	11.03%
Real Estate Benchmark(3)		-0.97%	-3.05%	-1.93%	-10.14%	-8.52%	7.18%	5.89%	8.02%
Excess Return		0.84%	0.18%	1.59%	3.67%	3.20%	5.03%	3.55%	3.01%
Total Private Equity (Q1)*	14.14%	-0.01%	1.45%	0.13%	2.53%	0.34%	18.59%	13.11%	12.20%
Private Equity Benchmark(4)		0.55%	4.61%	1.77%	17.97%	4.62%	15.41%	14.07%	15.56%
Excess Return		-0.56%	-3.17%	-1.64%	-15.44%	-4.29%	3.18%	-0.96%	-3.35%
Total Private Debt (Q1)*	4.86%	-0.01%	1.21%	0.00%	2.75%	4.14%	8.19%	5.20%	6.62%
Private Debt Benchmark(5)		-0.62%	1.12%	0.54%	8.49%	4.05%	3.76%	3.03%	6.40%
Excess Return		0.61%	0.10%	-0.55%	-5.74%	0.09%	4.43%	2.17%	0.21%
Total Fund Composite	100.00%	-1.34%	3.33%	0.33%	6.72%	6.54%	7.69%	6.65%	7.74%
Total Fund Benchmark(6)		-1.71%	3.37%	0.26%	8.66%	6.77%	5.28%	6.51%	7.78%
Excess Return		0.37%	-0.03%	0.07%	-1.94%	-0.22%	2.41%	0.14%	-0.04%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(3) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(4) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(5) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Idx + 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(6) Current Month Target = 30.0% Russell 3000 Index, 25.0% Bloomberg Universal, 20.0% MSCI ACWI ex-US, 10.0% NCREIF NFI-ODCE Value Weight Net lagged 3 months, 10.0% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg High Yield Corp lagged 3 months+1.0% and 2.5% MStar LSTA Lev Loan 100 lagged 3 months +1.0%.

(7) For the trailing 25 year period ended 8/31/23, the Total Fund has returned 6.53% versus the Total Fund Custom Benchmark return of 6.99%.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

FYTD Fiscal Year to Date

CYTD Calendar Year to Date

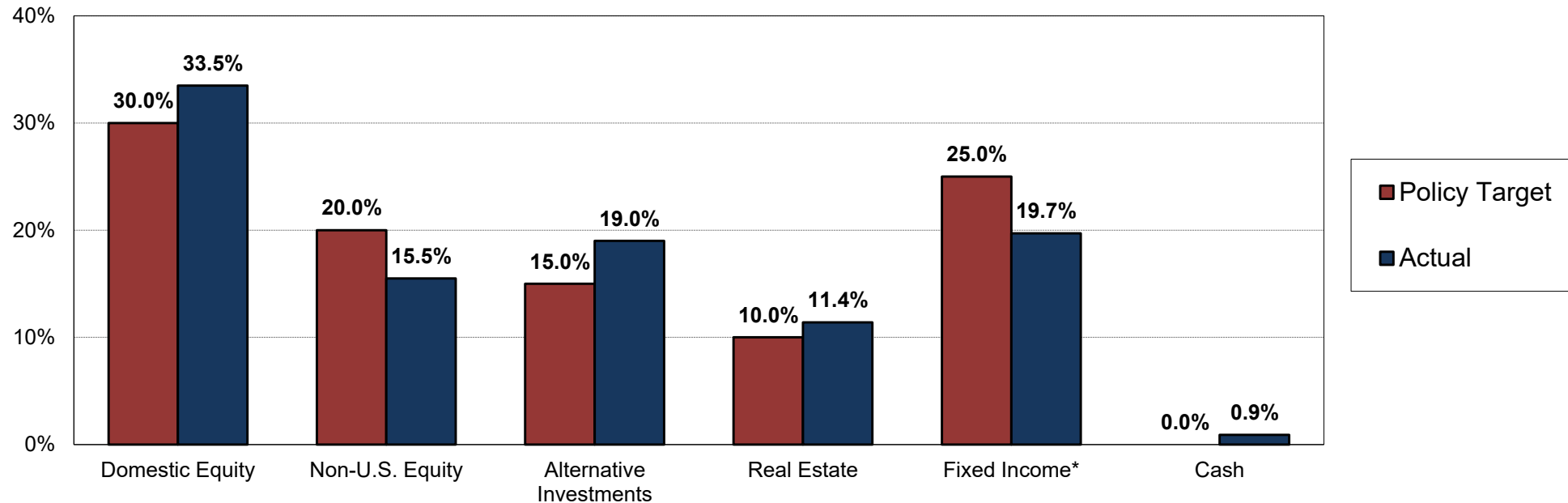
LTM Last Twelve Months

Source: Callan

Asset Class Policy Targets vs. Actual Allocation



**Asset Class Targets vs. Actual Allocation
as of August 31, 2023 (Preliminary)**



Asset Class	Target	Actual	Range
Domestic Equity	30.0%	33.5%	20 - 40%
Non-U.S. Equity	20.0%	15.5%	15 - 25%
Alternative Investments	15.0%	19.0%	5 - 25%
Real Estate	10.0%	11.4%	5 - 20%
Fixed Income*	25.0%	19.7%	20 - 30%
Cash	0.0%	0.9%	NA
	100.0%	100.0%	

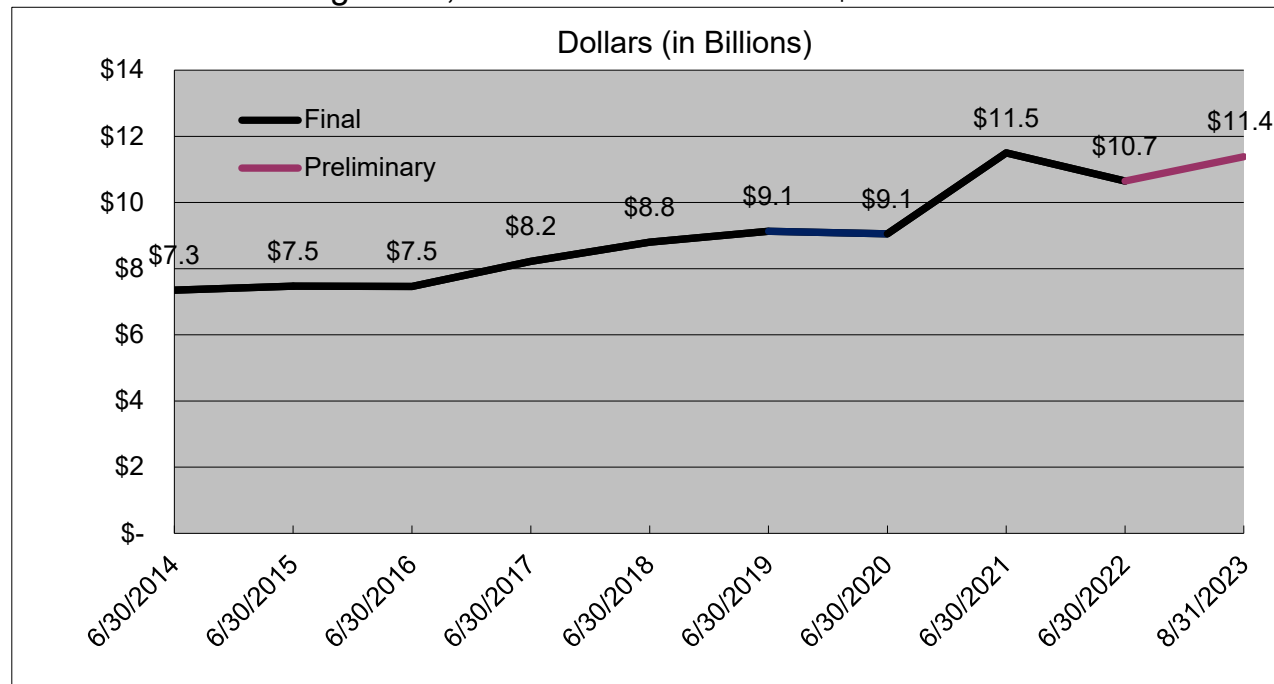
Source: NHRS

*Fixed income is within range when cash is included

Total Fund Market Value



Fiscal Year	Dollars (in Billions)
June 30,2014	\$7.3
June 30,2015	\$7.5
June 30,2016	\$7.5
June 30,2017	\$8.2
June 30,2018	\$8.8
June 30,2019	\$9.1
June 30,2020	\$9.1
June 30,2021	\$11.5
June 30,2022	\$10.7
June 30,2023*	\$11.4
August 31,2023*	\$11.4



*Total Fund Market Value reflects preliminary 6/30/23 data

Source: NHRS

Callan

August 31, 2023



New Hampshire Retirement System

Investment Measurement Service Monthly Review

Asset Class Excess Returns

August 31, 2023

The table below details the rates of return for the fund's asset classes over various time periods ended August 31, 2023. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended August 31, 2023									
Composite	Total Fund Weighting As of 8/31/2023	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	30.86%	-2.13%	8.78%	1.52%	14.77%	12.85%	10.80%	8.64%	11.05%
Domestic Equity Benchmark(1)		-1.93%	8.52%	1.59%	18.01%	14.76%	8.98%	10.19%	12.32%
Excess Return		-0.20%	0.26%	-0.07%	-3.24%	-1.91%	1.82%	-1.54%	-1.27%
Total Non US Equity	18.16%	-2.62%	4.95%	-0.18%	13.46%	18.60%	4.52%	3.80%	4.80%
Non US Equity Benchmark(2)		-4.52%	3.82%	-0.63%	8.78%	11.89%	3.99%	3.33%	4.38%
Excess Return		1.89%	1.13%	0.46%	4.68%	6.71%	0.54%	0.47%	0.42%
Total Fixed Income	19.69%	-0.93%	-0.24%	-0.47%	2.34%	0.59%	-2.53%	1.46%	2.27%
Bloomberg Capital Universe Bond Index		-0.60%	-0.66%	-0.50%	1.81%	-0.39%	-3.96%	0.74%	1.77%
Excess Return		-0.33%	0.42%	0.04%	0.53%	0.98%	1.44%	0.72%	0.50%
Total Cash	0.94%	0.45%	1.32%	0.90%	3.30%	4.46%	1.64%	1.74%	1.15%
3-Month Treasury Bill		0.45%	1.31%	0.85%	3.13%	4.25%	1.55%	1.65%	1.07%
Excess Return		0.00%	0.01%	0.04%	0.18%	0.20%	0.09%	0.09%	0.08%
Total Real Estate (Q1)*	11.36%	-0.13%	-2.87%	-0.34%	-6.47%	-5.32%	12.21%	9.44%	11.03%
Real Estate Benchmark(3)		-0.97%	-3.05%	-1.93%	-10.14%	-8.52%	7.18%	5.89%	8.02%
Excess Return		0.84%	0.18%	1.59%	3.67%	3.20%	5.03%	3.55%	3.01%
Total Private Equity (Q1)*	14.14%	-0.01%	1.45%	0.13%	2.53%	0.34%	18.59%	13.11%	12.20%
Private Equity Benchmark(4)		0.55%	4.61%	1.77%	17.97%	4.62%	15.41%	14.07%	15.56%
Excess Return		-0.56%	-3.17%	-1.64%	-15.44%	-4.29%	3.18%	-0.96%	-3.35%
Total Private Debt (Q1)*	4.86%	-0.01%	1.21%	0.00%	2.75%	4.14%	8.19%	5.20%	6.62%
Private Debt Benchmark(5)		-0.62%	1.12%	0.54%	8.49%	4.05%	3.76%	3.03%	6.40%
Excess Return		0.61%	0.10%	-0.55%	-5.74%	0.09%	4.43%	2.17%	0.21%
Total Fund Composite	100.00%	-1.34%	3.33%	0.33%	6.72%	6.54%	7.69%	6.65%	7.74%
Total Fund Benchmark(6)		-1.71%	3.37%	0.26%	8.66%	6.77%	5.28%	6.51%	7.78%
Excess Return		0.37%	-0.03%	0.07%	-1.94%	-0.22%	2.41%	0.14%	-0.04%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(3) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(4) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(5) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Idx + 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(6) Current Month Target = 30.0% Russell 3000 Index, 25.0% Bloomberg Universal, 20.0% MSCI ACWI ex-US, 10.0% NCREIF NFI-ODCE Value Weight Net lagged 3 months, 10.0% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg High Yield Corp lagged 3 months+1.0% and 2.5% MStar LSTA Lev Loan 100 lagged 3 months +1.0%.

(7) For the trailing 25 year period ended 8/31/23, the Total Fund has returned 6.53% versus the Total Fund Custom Benchmark return of 6.99%.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

FYTD Fiscal Year to Date
CYTD Calendar Year to Date
LTM Last Twelve Months

Domestic Equity Excess Returns

August 31, 2023

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2023. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Composite	Total Fund Weighting As of 8/31/2023	Net of Fees Returns for Periods Ended August 31, 2023							
		Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Domestic Equity	30.86%	-2.13%	8.78%	1.52%	14.77%	12.85%	10.80%	8.64%	11.05%
Domestic Equity Benchmark(1)		-1.93%	8.52%	1.59%	18.01%	14.76%	8.98%	10.19%	12.32%
Excess Return		-0.20%	0.26%	-0.07%	-3.24%	-1.91%	1.82%	-1.54%	-1.27%
Large Cap Domestic Equity	17.85%	-1.58%	8.28%	1.58%	18.56%	15.78%	10.44%	10.12%	11.86%
S&P 500 Index		-1.59%	8.28%	1.57%	18.73%	15.94%	10.52%	11.12%	12.81%
Excess Return		0.01%	0.00%	0.01%	-0.17%	-0.17%	-0.08%	-1.01%	-0.95%
BlackRock S&P 500	17.85%	-1.58%	8.28%	1.58%	18.56%	15.78%	10.44%	11.06%	12.77%
S&P 500 Index		-1.59%	8.28%	1.57%	18.73%	15.94%	10.52%	11.12%	12.81%
Excess Return		0.01%	0.00%	0.01%	-0.17%	-0.17%	-0.08%	-0.06%	-0.03%
Smid Cap Domestic Equity	5.67%	-2.84%	9.72%	1.42%	9.98%	7.17%	11.42%	5.40%	8.90%
Russell 2500 Index		-3.93%	9.44%	0.85%	9.72%	6.64%	9.52%	5.43%	9.13%
Excess Return		1.08%	0.28%	0.57%	0.27%	0.53%	1.90%	-0.03%	-0.23%
AllianceBernstein	3.50%	-2.82%	10.18%	1.13%	10.90%	7.42%	9.29%	5.54%	9.59%
Russell 2500 Index		-3.93%	9.44%	0.85%	9.72%	6.64%	9.52%	5.43%	9.13%
Excess Return		1.11%	0.74%	0.28%	1.18%	0.78%	-0.23%	0.11%	0.46%
TSW	2.17%	-2.88%	8.99%	1.88%	8.54%	6.78%	15.25%	5.24%	7.87%
TSW Blended Benchmark (2)		-3.85%	10.83%	1.79%	7.72%	5.74%	13.91%	5.19%	9.00%
Excess Return		0.97%	-1.84%	0.10%	0.82%	1.04%	1.33%	0.06%	-1.14%
Small Cap Domestic Equity	7.33%	-2.91%	9.28%	1.45%	9.20%	9.97%	11.89%	7.67%	10.33%
Russell 2000 Index		-5.00%	9.00%	0.81%	8.96%	4.65%	8.12%	3.14%	7.96%
Excess Return		2.10%	0.27%	0.65%	0.24%	5.32%	3.77%	4.53%	2.37%
Boston Trust	1.95%	-2.96%	8.26%	1.29%	5.76%	9.30%	14.57%	8.36%	10.11%
Russell 2000 Index		-5.00%	9.00%	0.81%	8.96%	4.65%	8.12%	3.14%	7.96%
Excess Return		2.04%	-0.74%	0.49%	-3.19%	4.65%	6.45%	5.22%	2.15%
Segall Bryant & Hamill	2.02%	-2.12%	9.84%	1.55%	7.13%	11.02%	11.71%	8.07%	9.71%
Russell 2000 Index		-5.00%	9.00%	0.81%	8.96%	4.65%	8.12%	3.14%	7.96%
Excess Return		2.88%	0.83%	0.75%	-1.83%	6.37%	3.59%	4.93%	1.75%
Wellington	3.37%	-3.34%	9.53%	1.49%	12.61%	9.74%	10.55%	7.07%	10.86%
Russell 2000 Index		-5.00%	9.00%	0.81%	8.96%	4.65%	8.12%	3.14%	7.96%
Excess Return		1.66%	0.53%	0.68%	3.65%	5.09%	2.43%	3.93%	2.90%

(1) The Domestic Equity Benchmark is the Russell 3000 Index as of 7/1/2021.

(2) TSW Blended Benchmark is the Russell 2500 Value Index as of 7/1/2019. Prior to 7/1/2019 it was the Russell 2500.

FYTD Fiscal Year to Date
CYTD Calendar Year to Date
LTM Last Twelve Months

Non-US Equity Excess Returns

August 31, 2023

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2023. Negative manager excess returns are shown in **red**, positive excess returns in **green**. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended August 31, 2023									
Composite	Total Fund Weighting As of 8/31/2023	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Non US Equity	18.16%	-2.62%	4.95%	-0.18%	13.46%	18.60%	4.52%	3.80%	4.80%
Non US Equity Benchmark (1)		-4.52%	3.82%	-0.63%	8.78%	11.89%	3.99%	3.33%	4.38%
Excess Return		1.89%	1.13%	0.46%	4.68%	6.71%	0.54%	0.47%	0.42%
Core Non US Equity	11.06%	-2.48%	4.80%	0.08%	14.17%	22.80%	6.30%	3.89%	4.29%
Core Non US Benchmark (2)		-4.52%	3.82%	-0.63%	8.78%	11.89%	3.99%	3.33%	4.38%
Excess Return		2.04%	0.98%	0.71%	5.39%	10.91%	2.31%	0.56%	-0.09%
Aristotle	1.43%	-3.71%	3.95%	-0.62%	12.04%	15.84%	-	-	-
MSCI EAFE		-3.83%	3.80%	-0.72%	10.87%	17.92%	-	-	-
Excess Return		0.12%	0.15%	0.09%	1.17%	-2.08%	-	-	-
Artisan Partners	3.14%	-1.07%	5.36%	0.59%	11.06%	19.02%	1.02%	3.96%	-
MSCI EAFE		-3.83%	3.80%	-0.72%	10.87%	17.92%	6.05%	4.14%	-
Excess Return		2.76%	1.56%	1.31%	0.20%	1.10%	-5.03%	-0.18%	-
BlackRock SuperFund	1.56%	-4.51%	3.87%	-0.65%	-	-	-	-	-
MSCI ACWI Ex-US		-4.52%	3.82%	-0.63%	-	-	-	-	-
Excess Return		0.00%	0.04%	-0.01%	-	-	-	-	-
Causeway Capital	3.59%	-2.08%	5.87%	0.90%	21.50%	35.54%	14.31%	6.55%	-
MSCI EAFE		-3.83%	3.80%	-0.72%	10.87%	17.92%	6.05%	4.14%	-
Excess Return		1.75%	2.07%	1.62%	10.64%	17.62%	8.26%	2.41%	-
Lazard	1.35%	-3.05%	2.77%	-1.66%	10.35%	14.63%	-	-	-
MSCI EAFE		-3.83%	3.80%	-0.72%	10.87%	17.92%	-	-	-
Excess Return		0.78%	-1.03%	-0.94%	-0.52%	-3.30%	-	-	-
Emerging Markets	1.43%	-5.76%	6.31%	0.19%	6.62%	5.00%	-3.63%	-0.25%	2.11%
MSCI EM		-6.16%	3.47%	-0.32%	4.55%	1.25%	-1.39%	0.98%	2.99%
Excess Return		0.40%	2.85%	0.50%	2.06%	3.75%	-2.24%	-1.23%	-0.88%
Wellington Emerging Markets	1.43%	-5.76%	5.75%	0.19%	4.31%	4.58%	-3.70%	-0.06%	3.47%
MSCI EM		-6.16%	3.47%	-0.32%	4.55%	1.25%	-1.39%	0.98%	2.99%
Excess Return		0.40%	2.28%	0.50%	-0.24%	3.33%	-2.32%	-1.05%	0.48%
Non US Small Cap	1.10%	-4.12%	4.12%	0.26%	8.36%	13.84%	0.75%	-3.52%	0.50%
MSCI EAFE Small Cap		-3.33%	3.88%	0.96%	6.54%	9.18%	2.39%	1.53%	5.67%
Excess Return		-0.79%	0.24%	-0.69%	1.82%	4.67%	-1.64%	-5.05%	-5.17%
Wellington Int'l Small Cap Research	1.10%	-4.12%	4.12%	0.26%	8.36%	13.84%	-	-	-
MSCI EAFE Small Cap		-3.33%	3.88%	0.96%	6.54%	9.18%	-	-	-
Excess Return		-0.79%	0.24%	-0.69%	1.82%	4.67%	-	-	-
Global Equity	4.56%	-1.57%	5.09%	-1.00%	16.60%	19.82%	7.78%	9.24%	10.73%
MSCI ACWI net		-2.79%	6.61%	0.76%	14.80%	13.95%	7.23%	7.46%	8.56%
Excess Return		1.22%	-1.52%	-1.77%	1.80%	5.87%	0.55%	1.78%	2.17%
Walter Scott Global Equity	4.56%	-1.57%	5.09%	-1.00%	16.60%	19.82%	7.78%	9.24%	10.73%
Walter Scott Blended Benchmark (3)		-2.79%	6.61%	0.76%	14.80%	13.95%	7.23%	7.46%	8.56%
Excess Return		1.22%	-1.52%	-1.77%	1.80%	5.87%	0.55%	1.78%	2.17%

(1) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(2) The Core Non US Equity Index is the MSCI ACWI ex US as of 7/1/2007. Prior to 7/1/2007 it was the MSCI EAFE Index.

(3) The Walter Scott Blended Benchmark is the MSCI ACWI Index as 5/1/2008. Prior to 5/1/2008 it was the MSCI EAFE Index.

Fixed Income Excess Returns

August 31, 2023

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2023. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended August 31, 2023									
Composite	Total Fund Weighting As of 8/31/2023	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Fixed Income	19.69%	-0.93%	-0.24%	-0.47%	2.34%	0.59%	-2.53%	1.46%	2.27%
Fixed Income Benchmark (1)		-0.60%	-0.66%	-0.50%	1.81%	-0.39%	-3.96%	0.74%	1.77%
Excess Return		-0.33%	0.42%	0.04%	0.53%	0.98%	1.44%	0.72%	0.50%
BlackRock SIO Bond Fund	2.23%	-0.30%	1.06%	0.73%	2.73%	1.71%	0.81%	-	-
BlackRock Custom Benchmark (2)		0.46%	1.33%	0.90%	3.34%	4.50%	1.74%	-	-
Excess Return		-0.76%	-0.27%	-0.17%	-0.61%	-2.79%	-0.93%	-	-
Brandywine Asset Mgmt	1.96%	-4.29%	-1.23%	-2.47%	0.71%	0.33%	-4.45%	-0.34%	1.11%
Brandywine Custom Benchmark (3)		-1.39%	-1.07%	-1.14%	0.66%	-0.85%	-7.82%	-2.15%	-0.68%
Excess Return		-2.90%	-0.16%	-1.33%	0.05%	1.17%	3.37%	1.81%	1.80%
FIAM (Fidelity) Tactical Bond	3.16%	-0.72%	-0.08%	-0.54%	2.58%	0.73%	-0.98%	-	-
Bloomberg Aggregate		-0.64%	-1.06%	-0.71%	1.37%	-1.19%	-4.41%	-	-
Excess Return		-0.08%	0.98%	0.17%	1.21%	1.93%	3.43%	-	-
Income Research & Management	6.64%	-0.50%	-0.76%	-0.56%	2.19%	-0.56%	-4.32%	1.17%	2.02%
Bloomberg Gov/Credit		-0.59%	-0.98%	-0.67%	1.53%	-0.87%	-4.58%	0.75%	1.63%
Excess Return		0.09%	0.22%	0.11%	0.66%	0.30%	0.26%	0.42%	0.39%
Loomis Sayles	2.38%	-0.39%	0.75%	0.42%	3.08%	1.79%	-0.79%	2.83%	3.51%
Loomis Sayles Custom Benchmark (4)		-0.32%	0.47%	0.12%	3.36%	1.69%	-2.24%	1.55%	2.57%
Excess Return		-0.07%	0.28%	0.30%	-0.28%	0.10%	1.45%	1.28%	0.94%
Manulife Strategic Fixed Income	1.81%	-0.84%	0.34%	-0.21%	3.14%	2.34%	-1.22%	1.96%	-
Bloomberg Multiverse		-1.36%	-0.49%	-0.61%	0.97%	0.30%	-5.85%	-1.05%	-
Excess Return		0.51%	0.84%	0.40%	2.17%	2.05%	4.62%	3.01%	-
Mellon US Agg Bond Index	1.51%	-0.64%	-	-	-	-	-	-	-
Bloomberg Aggregate Bond Index		-0.64%	-	-	-	-	-	-	-
Excess Return		0.00%	-	-	-	-	-	-	-
Total Cash	0.94%	0.45%	1.32%	0.90%	3.30%	4.46%	1.64%	1.74%	1.15%
3-month Treasury Bill		0.45%	1.31%	0.85%	3.13%	4.25%	1.55%	1.65%	1.07%
Excess Return		0.00%	0.01%	0.04%	0.18%	0.20%	0.09%	0.09%	0.08%
Total Marketable Assets	69.64%	-1.89%	4.98%	0.50%	10.51%	10.35%	5.05%	5.24%	6.81%
Total Marketable Index (5)		-2.18%	4.21%	0.32%	10.04%	9.05%	3.46%	5.48%	6.99%
Excess Return		0.29%	0.78%	0.18%	0.47%	1.30%	1.60%	-0.24%	-0.18%

(1) The Fixed Income Benchmark is the Bloomberg Universal Bond Index as of 7/1/2007.

(2) The BlackRock Custom Benchmark is 3 Month SOFR compounded in arrears as of 1/1/2022.

(3) The Brandywine Blended Benchmark is the FTSE WGBI Ex-China Index as of 11/1/2021.

(4) The Loomis Sayles Custom Benchmark is 65% Bloomberg Aggregate and 35% Bloomberg High Yield.

(5) Marketable Assets Index is 40% Russell 3000, 26.7% MSCI ACWI ex US, and 33.3% Bloomberg Universal as of 7/1/2021.

FYTD Fiscal Year to Date
CYTD Calendar Year to Date
LTM Last Twelve Months

The table below details the rates of return for the fund's investment managers over various time periods ended August 31, 2023. Negative manager excess returns are shown in red, positive excess returns in green. Returns for one year or greater are annualized.

Net of Fees Returns for Periods Ended August 31, 2023									
Composite	Total Fund Weighting As of 8/31/2023	Last Month	Last 3 Months	FYTD	CYTD	LTM	3-YR	5-YR	10-YR
Total Real Estate (Q1)* (5)	11.36%	-0.13%	-2.87%	-0.34%	-6.47%	-5.32%	12.21%	9.44%	11.03%
Real Estate Benchmark (1)		-0.97%	-3.05%	-1.93%	-10.14%	-8.52%	7.18%	5.89%	8.02%
Excess Return		0.84%	0.18%	1.59%	3.67%	3.20%	5.03%	3.55%	3.01%
Strategic Core Real Estate (Q1)*	7.24%	-0.06%	-4.78%	-0.44%	-9.53%	-7.98%	10.28%	8.23%	9.77%
Real Estate Benchmark (1)		-0.97%	-3.05%	-1.93%	-10.14%	-8.52%	7.18%	5.89%	8.02%
Excess Return		0.91%	-1.73%	1.49%	0.61%	0.53%	3.10%	2.34%	1.75%
Tactical Non-Core Real Estate (Q1)*	4.11%	-0.25%	0.78%	-0.16%	-0.30%	-0.02%	15.65%	11.67%	13.20%
Real Estate Benchmark (1)		-0.97%	-3.05%	-1.93%	-10.14%	-8.52%	7.18%	5.89%	8.02%
Excess Return		0.72%	3.82%	1.77%	9.84%	8.49%	8.46%	5.78%	5.17%
Total Alternative Assets (Q1)*	19.00%	-0.01%	1.39%	0.09%	2.59%	1.30%	15.40%	10.56%	9.50%
Alternative Assets Benchmark (2)		0.16%	3.45%	1.36%	14.79%	4.53%	11.58%	10.13%	11.46%
Excess Return		-0.17%	-2.06%	-1.27%	-12.21%	-3.23%	3.82%	0.43%	-1.96%
Total Private Equity (Q1)*	14.14%	-0.01%	1.45%	0.13%	2.53%	0.34%	18.59%	13.11%	12.20%
Private Equity Benchmark (3)		0.55%	4.61%	1.77%	17.97%	4.62%	15.41%	14.07%	15.56%
Excess Return		-0.56%	-3.17%	-1.64%	-15.44%	-4.29%	3.18%	-0.96%	-3.35%
Total Private Debt (Q1)*	4.86%	-0.01%	1.21%	0.00%	2.75%	4.14%	8.19%	5.20%	6.62%
Private Debt Benchmark (4)		-0.62%	1.12%	0.54%	8.49%	4.05%	3.76%	3.03%	6.40%
Excess Return		0.61%	0.10%	-0.55%	-5.74%	0.09%	4.43%	2.17%	0.21%

(1) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(2) The Alternative Assets Benchmark is 66.7% Russell 3000 Index + 2% lagged 1 quarter and 33.3% ((50% S&P LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%) lagged 1 quarter as of 7/1/2022.

(3) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(4) The Private Debt Benchmark is (50% MStar LSTA Leveraged Loan 100 Index / 50% Bloomberg High Yield Index) + 1% lagged 1 quarter as of 7/1/2022.

(5) Total Real Estate returns includes Townsend discretionary fee as of 7/1/2022.

*Real Estate and Alternatives market values reflect current custodian valuations, which are typically lagged approximately 1 quarter.

FYTD Fiscal Year to Date
CYTD Calendar Year to Date
LTM Last Twelve Months

Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of August 31, 2023, with the distribution as of July 31, 2023. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	August 31, 2023				July 31, 2023	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	\$3,512,811,675	30.86%	\$0	\$(75,722,114)	\$3,588,533,790	31.03%
Large Cap Domestic Equity	\$2,032,499,181	17.85%	\$0	\$(32,660,115)	\$2,065,159,295	17.86%
Blackrock S&P 500	2,032,499,181	17.85%	0	(32,660,115)	2,065,159,295	17.86%
SMid Cap Domestic Equity	\$645,754,640	5.67%	\$0	\$(18,578,299)	\$664,332,940	5.75%
AllianceBernstein	398,730,393	3.50%	0	(11,384,685)	410,115,078	3.55%
TSW	247,024,247	2.17%	0	(7,193,614)	254,217,861	2.20%
Small Cap Domestic Equity	\$834,557,855	7.33%	\$0	\$(24,483,700)	\$859,041,555	7.43%
Boston Trust	221,582,786	1.95%	0	(6,667,019)	228,249,805	1.97%
Segall Bryant & Hamill	229,553,991	2.02%	0	(4,809,691)	234,363,682	2.03%
Wellington	383,421,078	3.37%	0	(13,006,991)	396,428,068	3.43%
Total Non US Equity	\$2,066,842,850	18.16%	\$0	\$(54,677,073)	\$2,121,519,923	18.35%
Core Non US Equity (1)	\$1,259,635,234	11.06%	\$0	\$(31,494,253)	\$1,291,129,487	11.17%
Aristotle	162,757,606	1.43%	0	(6,205,152)	168,962,758	1.46%
Artisan Partners	357,406,918	3.14%	0	(3,670,652)	361,077,570	3.12%
BlackRock Superfund	177,385,958	1.56%	0	(8,383,201)	185,769,160	1.61%
Causeway Capital	408,171,850	3.59%	0	(8,472,451)	416,644,302	3.60%
Lazard	153,227,362	1.35%	0	(4,751,931)	157,979,293	1.37%
Emerging Markets	\$163,269,528	1.43%	\$0	\$(9,826,849)	\$173,096,377	1.50%
Wellington Emerging Markets	163,269,528	1.43%	0	(9,826,849)	173,096,377	1.50%
Non US Small Cap	\$125,302,102	1.10%	\$0	\$(5,296,655)	\$130,598,756	1.13%
Wellington Int'l Small Cap Research	125,302,102	1.10%	0	(5,296,655)	130,598,756	1.13%
Global Equity	\$518,635,986	4.56%	\$0	\$(8,059,316)	\$526,695,302	4.55%
Walter Scott Global Equity	518,635,986	4.56%	0	(8,059,316)	526,695,302	4.55%
Total Fixed Income	\$2,241,732,406	19.69%	\$0	\$(20,583,652)	\$2,262,316,057	19.56%
BlackRock SIO Bond Fund	254,180,043	2.23%	0	(672,720)	254,852,762	2.20%
Brandywine Asset Mgmt	223,301,523	1.96%	0	(9,932,062)	233,233,585	2.02%
FIAM (Fidelity) Tactical Bond	359,368,843	3.16%	0	(2,506,059)	361,874,902	3.13%
Income Research & Management	755,669,416	6.64%	0	(3,686,831)	759,356,247	6.57%
Loomis Sayles	271,279,430	2.38%	0	(975,261)	272,254,691	2.35%
Manulife Strategic Fixed Income	205,888,239	1.81%	0	(1,702,963)	207,591,202	1.80%
Mellon US Agg Bond Index	172,044,913	1.51%	0	(1,107,757)	173,152,669	1.50%
Total Cash	\$107,027,317	0.94%	\$(5,750,028)	\$508,541	\$112,268,804	0.97%
Total Marketable Assets	\$7,928,414,248	69.64%	\$(5,750,028)	\$(150,474,297)	\$8,084,638,574	69.92%
Total Real Estate	\$1,293,055,504	11.36%	\$(1,168,524)	\$(1,155,142)	\$1,295,379,170	11.20%
Strategic Core Real Estate	824,641,144	7.24%	(2,462,132)	1,292	827,101,984	7.15%
Tactical Non-Core Real Estate	468,414,361	4.11%	1,293,608	(1,156,434)	468,277,186	4.05%
Total Alternative Assets	\$2,162,638,326	19.00%	\$(20,554,703)	\$(244,598)	\$2,183,437,628	18.88%
Private Equity	1,609,820,993	14.14%	(8,415,658)	(198,718)	1,618,435,368	14.00%
Private Debt	552,817,333	4.86%	(12,139,045)	(45,881)	565,002,259	4.89%
Total Fund Composite	\$11,384,108,079	100.0%	\$(27,471,963)	\$(151,875,330)	\$11,563,455,372	100.0%

-Alternatives market values reflect current custodian valuations, which may not be up to date.

(1) Includes \$685,539 in legacy assets that are not actively managed and in liquidation following the termination of Fisher Investments.

Callan



September 12, 2023

**New Hampshire Retirement
System – Defined Benefit Plan**

Second Quarter 2023

Executive Summary

Angel G. Haddad

Senior Vice President, Fund Sponsor Consulting

Britton M. Murdoch

Vice President, Fund Sponsor Consulting

Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

Equity Markets Rebound Sharply in 1Q and 2Q; Fixed Income Markets Down in 2Q

Stocks and bonds still have ground to make up after first three quarters of 2022

- **S&P 500 up 16.9% in first half of 2023.**
 - Loss through first three quarters of 2022 was 23.9%; rebound in the following three quarters reduced the loss to 2.9% since the start of 2022. Greater loss reduction in large cap (U.S. and global ex-U.S.) compared to emerging and small cap
- **Fixed income recovered as high inflation began to ease; speculation about interest rate cuts evaporated in 2Q**
 - Bloomberg Aggregate: up 3% in 1Q, but declined 0.8% in 2Q as Fed continued to raise rates
 - CPI-U: +3% year-over year for 2Q, down from +6.5% for the year ended Dec. 2022
- **Inflation hit the highest rate (9%) in decades in June of 2022.**
- **Economic data defied expectations of recession; GDP growth was revised up to 2.0% in 1Q, and hit 2.4% in 2Q**
 - Job market remains solid, providing support to Fed efforts to fight inflation

Returns for Periods ended 6/30/23

	Quarter	Last 3 Qtrs	1Q-3Q 2022	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	8.39	24.51	-24.62	11.39	12.34	7.72
S&P 500	8.74	25.73	-23.87	12.31	12.86	7.61
Russell 2000	5.21	14.82	-25.10	4.21	8.26	7.26
Global ex-U.S. Equity						
MSCI World ex USA	3.03	29.30	-26.23	4.58	5.40	4.49
MSCI Emerging Markets	0.90	15.07	-27.16	0.93	2.95	--
MSCI ACWI ex USA Small Cap	2.05	21.06	-29.37	2.62	5.75	6.73
Fixed Income						
Bloomberg Aggregate	-0.84	4.00	-14.61	0.77	1.52	3.90
90-day T-Bill	1.17	3.12	0.61	1.55	0.98	1.89
Bloomberg Long Gov/Credit	-1.29	7.11	-28.94	0.66	2.86	5.33
Bloomberg Global Agg ex-US	-2.16	7.70	-23.88	-2.65	-0.90	2.62
Real Estate						
NCREIF Property	-1.81	-6.97	9.35	5.94	7.84	8.53
FTSE Nareit Equity	2.62	10.89	-28.13	4.55	6.42	8.32
Alternatives						
CS Hedge Fund Index	1.71	2.80	0.14	4.52	4.06	5.49
Cambridge Private Equity*	2.12	1.12	-1.84	15.98	15.04	13.83
Bloomberg Commodity	-2.56	-5.74	13.57	4.73	-0.99	2.04
Gold Spot Price	-2.86	15.39	-8.56	8.99	4.66	7.76
Inflation - CPI-U	1.08	2.80	6.46	3.90	2.71	2.54

*Cambridge PE data as of 1Q23

Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

Key Observations

NHRS Pension Plan

Asset Allocation and Portfolio Structure

- Overall, the Fund's asset allocation was close to the permissible Policy ranges at quarter-end. The Fund's allocation to defensive positions, including fixed income and cash, represented 20.7% of total assets. The fixed income allocation was below the policy range by 0.2%, partially balanced by a 0.9% allocation to cash equivalent instruments. During May, the fixed income component of the Fund was rebalanced back within the Investment Policy parameters. In addition, the international equity component of the Fund is now within the approved allocation range. The Fund had an overweight to domestic equity, real estate and alternatives relative to target, and underweight positions to international equity and fixed income

Investment Performance

- The Fund had a gross return of 2.59% over the fourth quarter of Fiscal Year 2023, underperforming the market benchmark by 3.45% and ranking in the 71st percentile of its peers. On a net-of-fees basis, the Fund returned 2.49%
 - The Non-U.S. Equity and Fixed Income portfolios had positive impacts on relative performance
 - By contrast, the Alternative Assets, U.S. Equity, and Real Estate portfolios detracted from performance. This is a reflection of more modest valuations within alternatives and real estate investments, as well as the outperformance of large cap stocks versus their mid and small cap counterparts over the quarter (mostly driven by the technology sector)
- Overall, performance is competitive relative to both benchmarks over longer periods measured, including the most recent fiscal year. The Fund outperformed the peer group median over the long term, ranking in the top 23% of peers for the trailing 10-year period, and in the top 39% of peers over the last 25 years
- The Fund exhibits attractive risk-adjusted performance, as measured by the Sharpe Ratio over the last five years. In addition, relative risk-adjusted scores, as measured by the Excess Return Ratio, are also strong. Both of these ratios ranked within the top 35% of peers

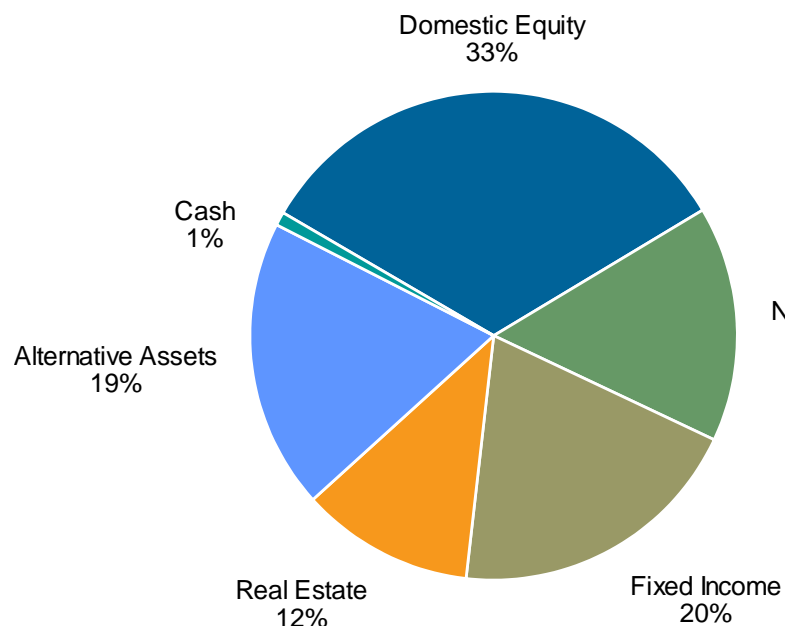
Other Developments

- NHRS Staff and Callan will work closely together to evaluate the Fund's strategic asset allocation in 2023

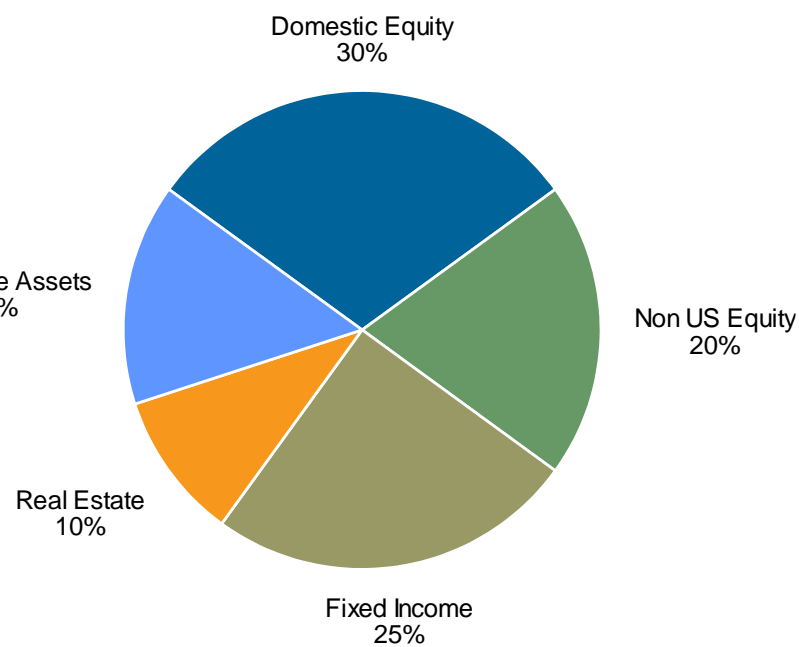
Total Fund

Actual Asset Allocation vs. Target, as of June 30, 2023

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$Millions Actual	Weight Actual	Target	Percent Difference	\$Millions Difference
Domestic Equity	3,755	33.0%	30.0%	3.0%	343
Non US Equity	1,773	15.6%	20.0%	(4.4%)	(502)
Fixed Income	2,251	19.8%	25.0%	(5.2%)	(592)
Real Estate	1,310	11.5%	10.0%	1.5%	173
Alternative Assets	2,179	19.2%	15.0%	4.2%	473
Cash	103	0.9%	0.0%	0.9%	103
Total	11,371	100.0%	100.0%		

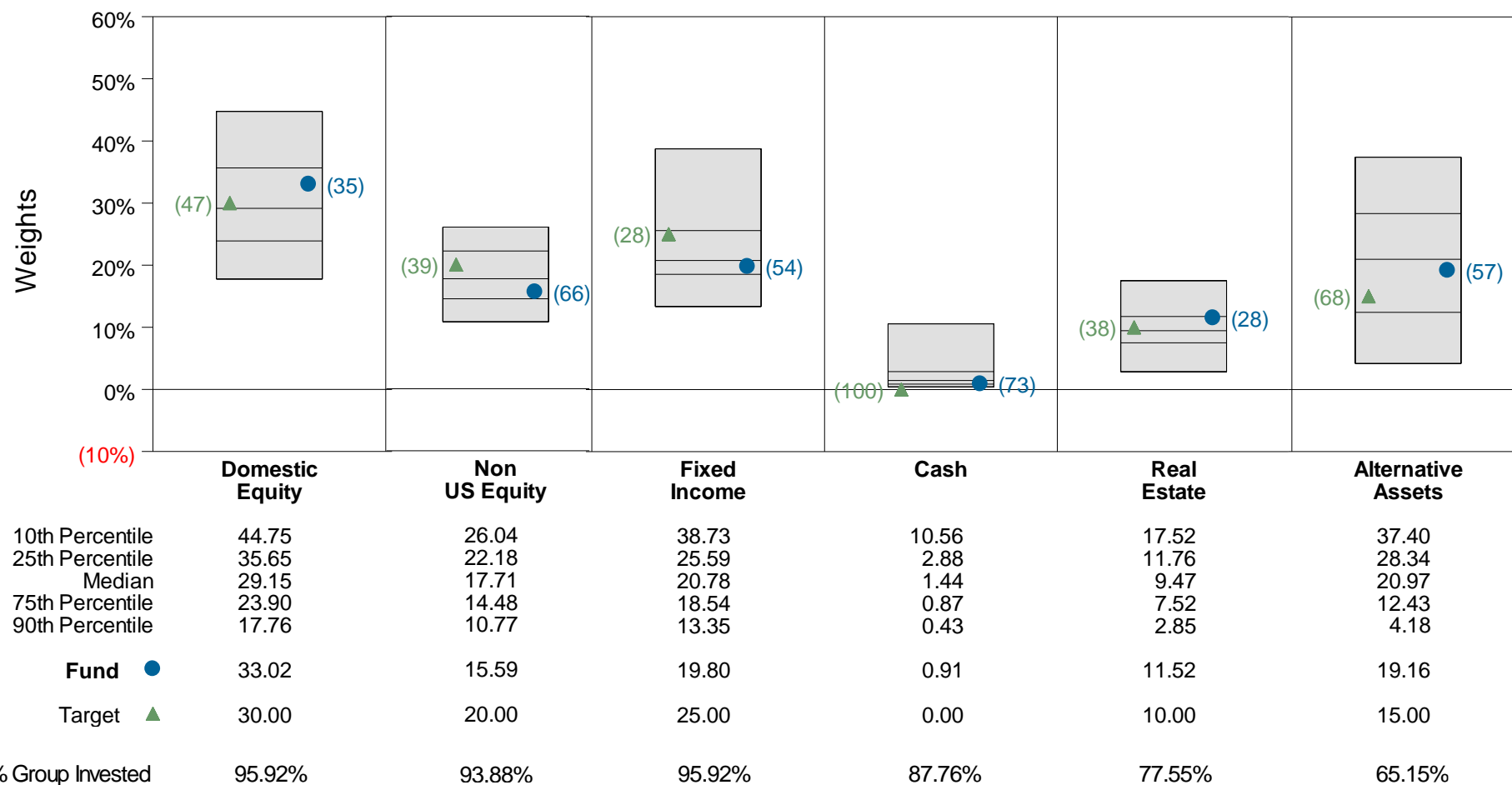
*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

**The United States equity portion of the Walter Scott Global Equity fund is allocated to the Domestic Equity composite.

Total Fund

Actual Asset Allocation vs. Large Public DB Plan (>\$1B) Peer Group, as of June 30, 2023

Asset Class Weights vs Callan Public Fund Spons - Large (>1B)



*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund

Market Values

	June 30, 2023				March 31, 2023	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Domestic Equity	\$3,458,714,586	30.42%	\$(175,000,000)	\$223,045,071	\$3,410,669,514	30.75%
Large Cap Domestic Equity	\$2,000,916,361	17.60%	\$(175,000,000)	\$161,425,157	\$2,014,491,204	18.16%
Blackrock S&P 500	2,000,916,361	17.60%	(175,000,000)	161,425,157	2,014,491,204	18.16%
S Mid Cap Domestic Equity	\$636,144,797	5.59%	\$0	\$31,695,808	\$604,448,989	5.45%
AllianceBernstein	393,913,798	3.46%	0	19,630,709	374,283,089	3.37%
TSW	242,230,999	2.13%	0	12,065,099	230,165,900	2.07%
Small Cap Domestic Equity	\$821,653,428	7.23%	\$0	\$29,924,107	\$791,729,321	7.14%
Boston Trust	218,581,646	1.92%	0	1,973,752	216,607,894	1.95%
Segall Bryant & Hamill	225,735,035	1.99%	0	6,203,528	219,531,507	1.98%
Wellington	377,336,747	3.32%	0	21,746,828	355,589,919	3.21%
Total Non US Equity *	\$2,068,607,480	18.19%	\$(9,524,361)	\$81,918,325	\$1,996,213,516	18.00%
Core Non US Equity *	\$1,257,685,405	11.06%	\$(18,479)	\$44,309,870	\$1,213,394,015	10.94%
Aristotle	163,657,086	1.44%	0	7,783,058	155,874,029	1.41%
Artisan Partners	354,943,424	3.12%	0	5,670,315	349,273,109	3.15%
BlackRock Superfund	178,541,447	1.57%	0	4,551,777	173,989,670	1.57%
Causeway Capital	404,172,744	3.55%	0	20,150,880	384,021,864	3.46%
Lazard	155,681,568	1.37%	0	6,162,760	149,518,808	1.35%
Emerging Markets	\$162,689,144	1.43%	\$(9,505,882)	\$4,242,440	\$167,952,586	1.51%
Wellington Emerging Markets	162,689,144	1.43%	0	3,424,980	159,264,164	1.44%
Neuberger Berman	0	0.00%	(9,505,882)	817,460	8,688,422	0.08%
Non US Small Cap	\$124,816,978	1.10%	\$0	\$1,963,782	\$122,853,196	1.11%
Wellington Int'l Small Cap Research	124,816,978	1.10%	0	1,963,782	122,853,196	1.11%
Global Equity	\$523,415,953	4.60%	\$0	\$31,402,233	\$492,013,720	4.44%
Walter Scott Global Equity	523,415,953	4.60%	0	31,402,233	492,013,720	4.44%

*Includes \$689,136 in legacy assets that are not actively managed and in liquidation following the termination of Fisher

Total Fund

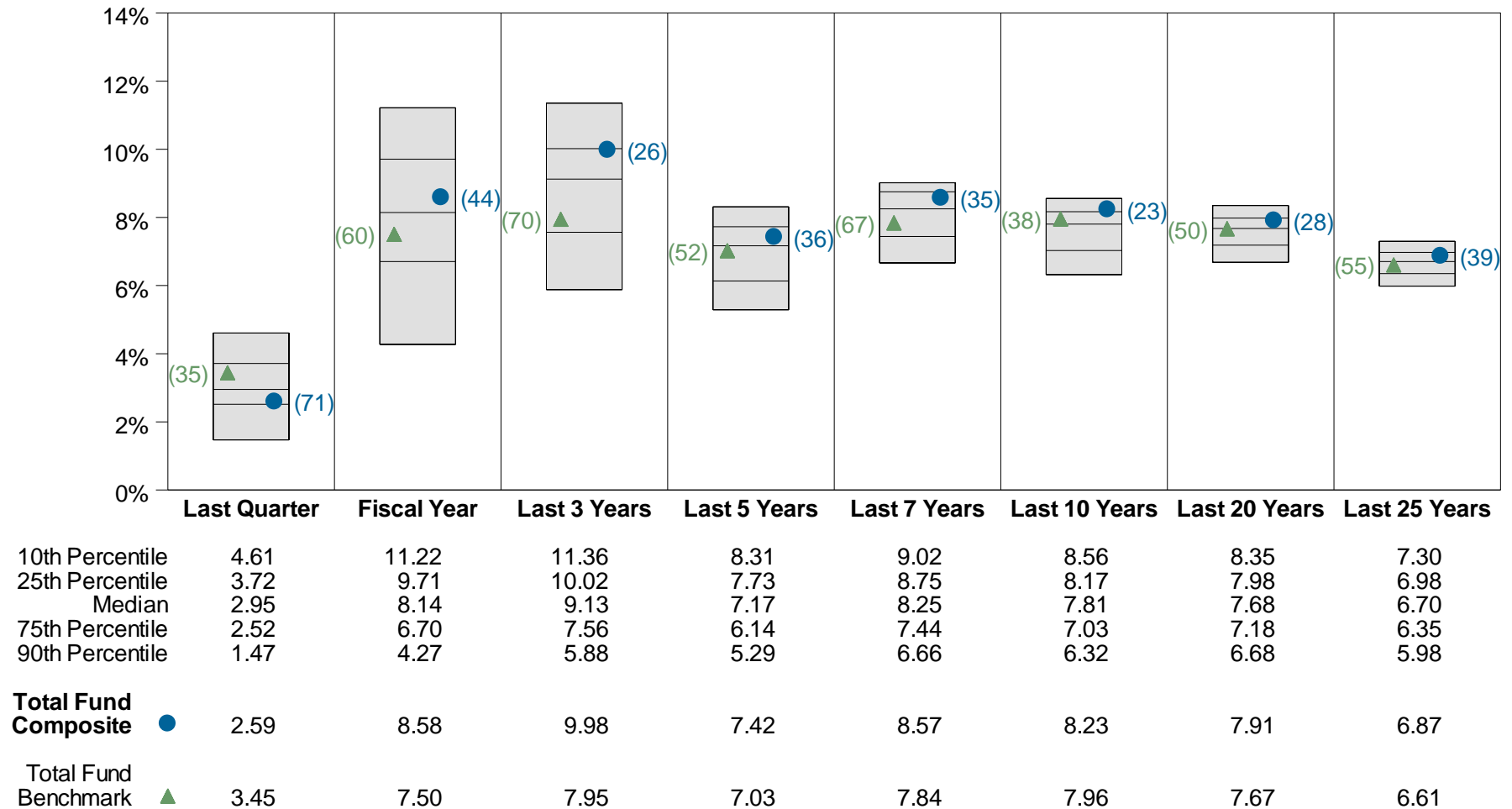
Market Values

	June 30, 2023				March 31, 2023	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Total Fixed Income	\$2,251,265,208	19.80%	\$175,000,102	\$(7,915,329)	\$2,084,180,435	18.79%
BlackRock SIO Bond Fund	252,131,560	2.22%	0	1,274,723	250,856,836	2.26%
Brandywine Asset Mgmt	228,830,232	2.01%	0	(1,248,242)	230,078,474	2.07%
FIAM (Fidelity) Tactical Bond	361,123,084	3.18%	0	(250,606)	361,373,690	3.26%
Income Research & Management	759,675,580	6.68%	102	(5,280,311)	764,955,790	6.90%
Loomis Sayles	270,008,060	2.37%	0	(849,051)	270,857,111	2.44%
Manulife Strategic Fixed Income	206,228,831	1.81%	0	170,296	206,058,535	1.86%
Mellon US Agg Bond Index	173,267,861	1.52%	175,000,000	(1,732,139)	-	-
Total Cash	\$103,085,375	0.91%	\$(1,071,792)	\$1,466,458	\$102,690,710	0.93%
Total Marketable Assets	\$7,881,672,649	69.31%	\$(10,596,051)	\$298,514,525	\$7,593,754,176	68.46%
Total Real Estate	\$1,310,476,498	11.52%	\$(16,464,749)	\$(36,862,458)	\$1,363,803,705	12.29%
Strategic Core Real Estate	842,225,131	7.41%	(20,713,682)	(41,778,141)	904,716,954	8.16%
Tactical Non-Core Real Estate	468,251,366	4.12%	5,064,920	4,099,697	459,086,749	4.14%
Total Alternative Assets	\$2,179,017,788	19.16%	\$17,581,514	\$26,001,037	\$2,135,435,236	19.25%
Private Equity	1,613,602,138	14.19%	20,056,152	17,550,275	1,575,995,712	14.21%
Private Debt	565,415,650	4.97%	(2,474,637)	8,450,763	559,439,524	5.04%
Total Fund Composite	\$11,371,166,935	100.0%	\$(9,479,286)	\$287,653,104	\$11,092,993,117	100.0%

Total Fund Performance – Gross of Investment Management Fees

Performance vs. Large Public DB Plan (>\$1B) Peers, as of June 30, 2023

Performance vs Callan Public Fund Large DB (Gross)



Note: Investment results are shown gross of investment management fees versus corresponding peer group.

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Gross of Investment Management Fees

Five-Year Risk/Return Analysis as of June 30, 2023

Five Year Annualized Risk vs Return



Squares represent membership of the Callan Public Fund Spons - Large (>1B)

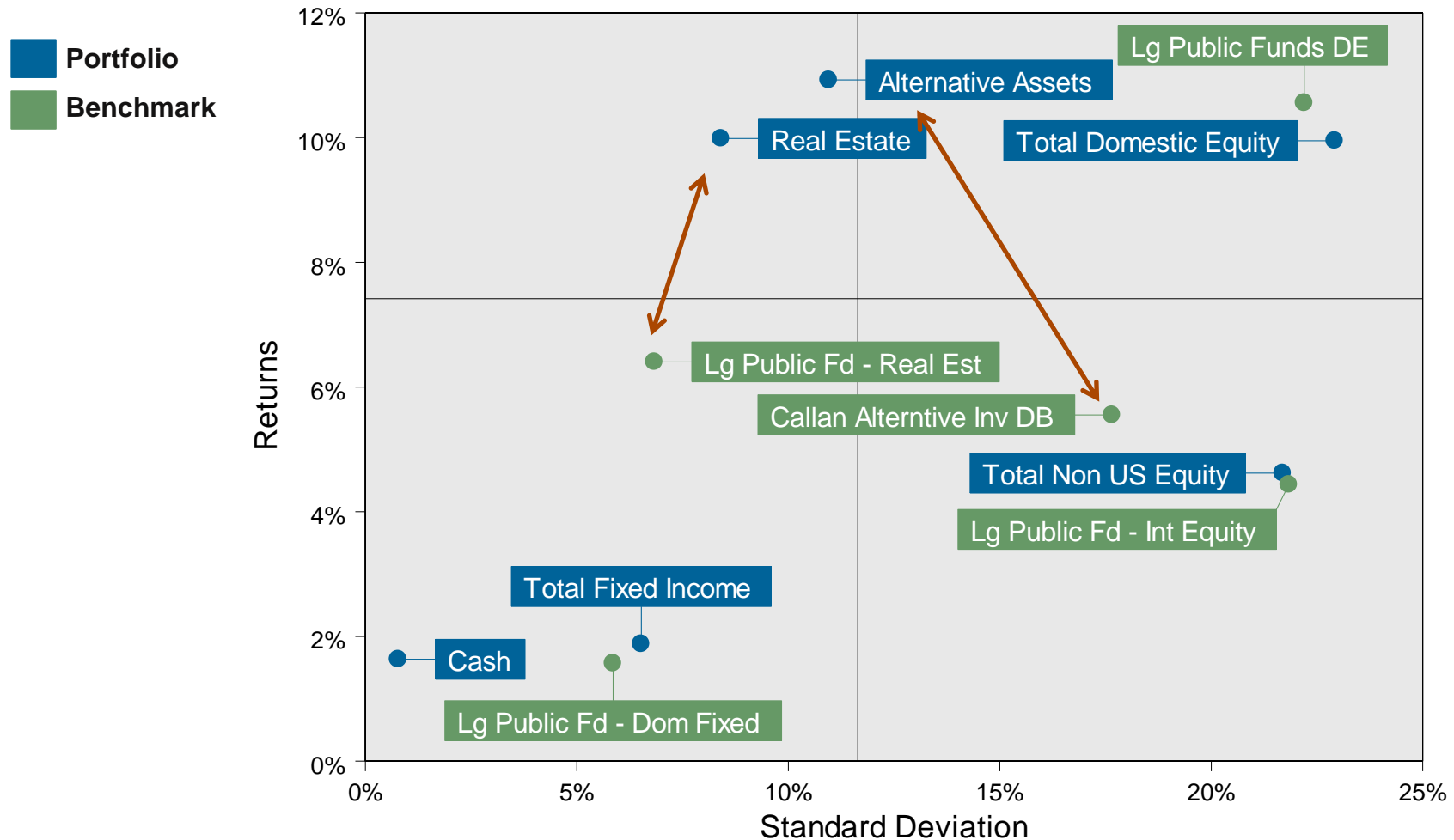
Note: Investment results are shown gross of investment management fees versus corresponding peer group.

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Gross of Investment Management Fees

Asset Class Composites – Five-Year Risk/Return Analysis as of June 30, 2023

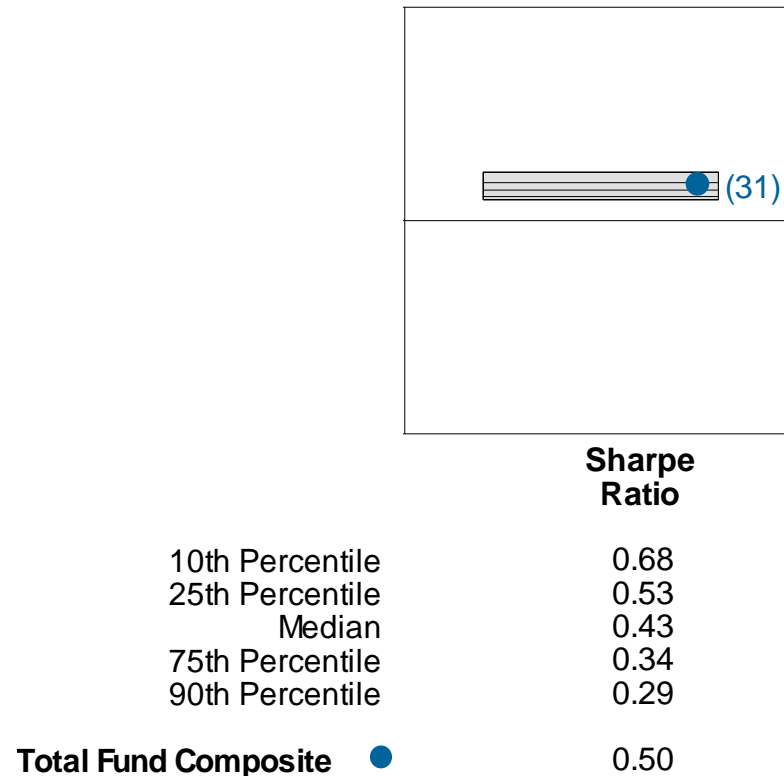
Five Year Annualized Risk vs Return Asset Classes vs Asset Class Median



Note: Investment results are shown gross of investment management fees.

Total Fund Performance – Gross of Investment Management Fees

Five-Year Sharpe Ratio, as of June 30, 2023



- Measures absolute risk-adjusted performance, taking into account the risk-free rate and portfolio volatility
- Ranks near the top quartile of the peer group

Note: Investment results are shown gross of investment management fees versus corresponding peer group.

Total Fund Performance – Net of Investment Management Fees

One-Year Attribution Analysis vs. Policy Benchmark, as of June 30, 2023

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return			
Domestic Equity	30%	30%	17.25%	18.95%	(0.48%)	(0.19%)	(0.67%)			
Non US Equity	17%	20%	19.01%	12.72%	0.97%	(0.24%)	0.73%			
Fixed Income	19%	25%	1.43%	(0.04%)	0.30%	0.39%	0.68%			
Real Estate	13%	10%	(5.19%)	(3.91%)	(0.21%)	(0.34%)	(0.55%)			
Alternative Assets	20%	15%	1.27%	(3.69%)	0.90%	(0.61%)	0.29%			
Cash	1%	0%	3.85%	3.85%	0.00%	(0.03%)	(0.03%)			
Total			7.98%	=	7.51%	+	1.51%	+	(1.03%)	0.48%

What helped relative performance?

- Strong relative performance from the alternative assets portfolios
- Strong relative performance from the non-U.S. equity and fixed income portfolios
- An underweight to fixed income relative to target

What hurt relative performance?

- An overweight to alternative assets and real estate portfolios
- A slight underweight to domestic equity and an underweight to international equity
- Weak relative performance from the domestic equity and real estate portfolios

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

Total Fund Performance – Net of Investment Management Fees

Five-Year Attribution Analysis vs. Policy Benchmark, as of June 30, 2023

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	30%	30%	9.65%	11.36%	(0.44%)	(0.16%)	(0.60%)
Non US Equity	18%	20%	3.97%	3.52%	0.08%	(0.00%)	0.07%
Fixed Income	22%	25%	1.60%	0.98%	0.11%	0.18%	0.29%
Real Estate	11%	10%	9.52%	6.56%	0.32%	(0.06%)	0.25%
Alternative Assets	19%	15%	10.55%	10.20%	(0.04%)	0.05%	0.01%
Cash	1%	0%	1.64%	1.64%	0.00%	(0.03%)	(0.03%)
Total			7.02%	= 7.03%	+ 0.02%	+ (0.03%)	(0.01%)

What helped relative performance?

- Strong relative performance from real estate, fixed income, and non-U.S. equity portfolios
- An underweight to fixed income and an overweight to alternative assets

What hurt relative performance?

- Weak relative performance from domestic equity and alternative assets portfolios
- A slight underweight to domestic equity
- A slight overweight to real estate and cash

*Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

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Appendix

Investment Manager Returns – Net of Investment Management Fees

As of June 30, 2023

	Last Quarter	Fiscal Year	Last 3 Years	Last 5 Years
Net of Fees				
Total Domestic Equity	6.81%	17.25%	14.21%	9.65%
Domestic Equity Benchmark (1)	8.39%	18.95%	12.99%	11.36%
Secondary Domestic Equity Bmk (6)	7.34%	17.04%	13.52%	9.62%
Large Cap Domestic Equity	8.60%	19.41%	14.35%	11.20%
S&P 500 Index	8.74%	19.59%	14.60%	12.31%
Blackrock S&P 500	8.60%	19.41%	14.51%	12.25%
SMid Cap Domestic Equity	5.10%	12.87%	14.13%	6.10%
Russell 2500 Index	5.22%	13.58%	12.29%	6.55%
AllianceBernstein	5.11%	14.38%	12.00%	6.54%
TSW	5.10%	10.49%	17.97%	5.32%
TSW Blended Benchmark (2)	4.37%	10.37%	16.07%	6.11%
Small Cap Domestic Equity	3.61%	15.23%	14.38%	8.82%
Russell 2000 Index	5.21%	12.31%	10.82%	4.21%
Boston Trust	0.79%	12.01%	16.64%	9.71%
Segall Bryant & Hamill	2.62%	16.50%	13.86%	9.54%
Wellington	5.93%	16.41%	13.45%	7.98%
Total Non US Equity	3.98%	19.01%	7.75%	3.97%
Non US Equity Benchmark (3)	2.44%	12.72%	7.22%	3.52%
Core Non US Equity	3.53%	21.53%	9.12%	4.11%
Core Non US Benchmark (4)	2.44%	12.72%	7.22%	3.52%
Aristotle	4.88%	17.96%	-	-
Artisan Partners	1.46%	18.04%	4.33%	4.40%
BlackRock Superfund	2.61%	-	-	-
Causeway Capital	5.11%	30.62%	16.54%	6.37%
Lazard	3.99%	15.80%	-	-
Emerging Markets	2.48%	5.64%	(0.27%)	(0.99%)
MSCI EM	0.90%	1.75%	2.32%	0.93%
Wellington Emerging Markets	1.90%	5.08%	(0.18%)	(0.84%)
Non US Small Cap	1.47%	14.86%	3.69%	(3.91%)
Wellington Int'l Small Cap Research	1.47%	14.86%	-	-
MSCI EAFE Small Cap	0.58%	10.18%	5.70%	1.31%
Global Equity	6.24%	23.21%	11.70%	10.66%
MSCI ACWI net	6.18%	16.53%	10.99%	8.10%
Walter Scott Global Equity	6.24%	23.21%	11.70%	10.66%
Walter Scott Blended Benchmark (5)	6.18%	16.53%	10.99%	8.10%

(1) The Domestic Equity Benchmark is the Russell 3000 index as of 7/1/2021. From 7/1/2015 to 6/30/2021 the benchmark was the S&P 500 Index. From 7/1/2003 to 6/30/2015 the benchmark was the Russell 3000 Index. Prior to 7/1/2003 the benchmark was the S&P 500.

(2) TSW Blended Benchmark is the Russell 2500 Value Index as of 7/1/2019. Prior to 7/1/2019 it was the Russell 2500.

(3) The Non US Equity Index is the MSCI ACWI ex US Index as of 7/1/2003. Prior to 7/1/2003 it was the MSCI EAFE Index.

(4) The Core Non US Equity Index is the MSCI ACWI ex US as of 7/1/2007. Prior to 7/1/2007 it was the MSCI EAFE Index.

(5) The Walter Scott Blended Benchmark is the MSCI ACWI Index as 5/1/2008. Prior to 5/1/2008 it was the MSCI EAFE Index. (6) Secondary Domestic Equity Bmk consists of 60% S&P 500, 20% Russell 2500, and 20% Russell 2000.

(6) The Secondary Domestic Equity Bmk consists of 60% S&P 500, 20% Russell 2500, and 20% Russell 2000.

Investment Manager Returns – Net of Investment Management Fees

As of June 30, 2023

	Last Quarter	Fiscal Year	Last 3 Years	Last 5 Years
Net of Fees				
Total Fixed Income	(0.38%)	1.43%	(1.51%)	1.60%
Fixed Income Benchmark (1)	(0.59%)	(0.04%)	(3.43%)	0.98%
Bloomberg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%
BlackRock SIO Bond Fund	0.39%	1.91%	0.96%	-
BlackRock Custom Benchmark (2)	1.23%	3.56%	1.31%	-
Brandywine Asset Mgmt	(0.62%)	0.93%	(1.92%)	(0.18%)
Brandywine Custom Benchmark (3)	(1.70%)	(2.40%)	(6.50%)	(2.04%)
FIAM (Fidelity) Tactical Bond	(0.15%)	3.12%	(0.09%)	-
Bloomberg Aggregate	(0.84%)	(0.94%)	(3.96%)	0.77%
Income Research & Management	(0.73%)	(0.38%)	(3.78%)	1.42%
Bloomberg Gov/Credit	(0.93%)	(0.70%)	(4.11%)	1.03%
Loomis Sayles	(0.39%)	2.61%	0.19%	2.96%
Loomis Sayles Custom Benchmark (4)	0.06%	2.50%	(1.50%)	1.74%
Manulife Strategic Fixed Income	0.01%	4.01%	(0.00%)	2.09%
Bloomberg Multiverse	(1.39%)	(0.82%)	(4.67%)	(0.94%)
Total Cash	1.22%	3.85%	1.34%	1.64%
3-month Treasury Bill	1.17%	3.59%	1.27%	1.55%
Total Marketable Assets	3.84%	12.65%	7.50%	5.74%
Total Marketable Index (5)	3.79%	11.00%	6.04%	6.06%
Total Real Estate (10)	(2.98%)	(5.19%)	12.43%	9.52%
Real Estate Benchmark (6)	(3.38%)	(3.91%)	7.46%	6.56%
Strategic Core Real Estate	(4.88%)	(7.64%)	10.45%	8.33%
Tactical Non-Core Real Estate	0.66%	(0.33%)	15.96%	11.70%
Total Alternative Assets	1.16%	1.27%	15.40%	10.55%
Alternative Assets Benchmark (7)	6.25%	(3.69%)	16.28%	10.20%
Total Private Equity	1.06%	0.30%	18.58%	13.07%
Private Equity Benchmark (8)	7.62%	(5.92%)	21.39%	14.40%
Cambridge Global PE Idx 1 Qtr Lag	0.00%	(6.48%)	21.33%	15.29%
Total Private Debt	1.44%	4.14%	8.25%	5.21%
Private Debt Benchmark (9)	3.53%	0.62%	5.87%	3.01%
Cambridge Private Credit Idx 1 Qtr Lag	0.00%	(1.61%)	10.50%	6.30%
Total Fund Composite	2.49%	7.98%	9.49%	7.02%
Total Fund Benchmark *	3.45%	7.50%	7.95%	7.03%

* Current Quarter Target = 30% Russell 3000 Index, 25% Bloomberg Universal, 20% MSCI ACWI ex US, 10% NCREIF NFI-ODCE Val Wt Net lagged 3 months, 10% Russell 3000 Index lagged 3 months+2.0%, 2.5% Bloomberg HY Corp lagged 3 months+1.0%, and 2.5% S&P/LSTA Lev Loan 100 lagged 3 months+1.0%.

(1) The Fixed Income Benchmark is the Bloomberg Capital Universal Bond Index as of 7/1/2007.

(2) The BlackRock Custom Benchmark is 3 Month SOFR compounded in arrears as of 1/1/2022.

(3) The Brandywine Blended Benchmark is the FTSE WGBI Ex-China Index as of 11/1/2021.

(4) The Loomis Sayles Custom Benchmark is 65% Bloomberg Aggregate and 35% Bloomberg High Yield.

(5) Marketable Assets Index is 40% Russell 3000, 26.7% MSCI ACWI ex US, and 33.3% Bloomberg Universal as of 7/1/2021.

(6) The Real Estate Benchmark is the NCREIF NFI-ODCE Value Weight Net Index lagged 1 quarter as of 7/1/2015.

(7) The Alternative Assets Benchmark is (5) The Alternative Assets Benchmark is 66.7% Russell 3000 Index + 2% lagged 1 quarter and 33.3% ((50% S&P LSTA Leveraged Loan 100 Index + 50% Bloomberg High Yield Index) + 1%) lagged 1 quarter as of 7/1/2022.

(8) The Private Equity Benchmark is the Russell 3000 Index + 2% lagged 1 quarter as of 7/1/2022.

(9) The Private Debt Benchmark is (50% S&P LSTA Leveraged Loan 100 Index & 50% Bloomberg HY Index) + 1% lagged 1 quarter as of 7/1/2022..

(10) Total Real Estate returns includes Townsend discretionary fee as of 7/1/2022.

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LEGISLATIVE COMMITTEE

2024 LSR titles

As of 9/28/23

2024-2116-HB: Relative to payment by the state of a portion of retirement system contributions of political subdivision employers. Sponsors: (Prime) Michael Edgar

2024-2227-HB: Relative to group II membership in the retirement system for certain firefighter educators. Sponsors: (Prime) Douglas Trottier

2024-2047-HB: Relative to prohibiting environmental, social, and governance standards in the selection of government investments. Sponsors: (Prime) Mike Belcher

2024-2262-HB: Relative to eligibility for retirement benefits for employees injured on the job. Sponsors: (Prime) Hope Damon

2024-2376-HB: Relative to part-time employment of a retirement system retiree. Sponsors: (Prime) Mark Proulx

2024-2412-HB: Relative to agents for investment services in the New Hampshire retirement system. Sponsors: (Prime) Stephen Pearson

2024-2565-HB: Relative to retirement system allowances for former spouses of retirees. Sponsors: (Prime) Barbara Comtois

2024-2619-HB: Relative to group II retirement system membership for emergency medical services personnel. Sponsors: (Prime) Anita Burroughs

2024-2637-HB: Relative to mandatory overtime and the calculation of base rate of compensation. Sponsors: (Prime) Carol McGuire

2024-2668-HB: Relative to average final compensation for certain group II members. Sponsors: (Prime) Kevin Pratt

2024-2729-HB: Relative to determination of earnable compensation for certain group II retirement system members. Sponsors: (Prime) Kevin Pratt

2023-24 Legislative Schedule

SENATE

Thursday, September 28, 2023 – First day to FILE legislation for the 2024 Session.

Thursday, October 12, 2023 – Deadline for the Office of Legislative Services to accept drafting of a Senate Bill, Senate Concurrent Resolution, or Senate Joint Resolution with complete information for the 2024 Session. (4 p.m.)

Thursday, November 16, 2023 – Deadline for prime sponsors to sign off on legislation. (4 p.m.)

Thursday, November 30, 2023 – Deadline for co-sponsors to sign off on legislation. (4 p.m.)

Thursday, December 14, 2023 – Deadline to REPORT rereferred bills out of committee.

Wednesday, January 3, 2024 – Session to act on the Governor’s vetoes from the 2023 session (“Veto Day”)

HOUSE

Friday, November 3, 2023 – Last Day to sign off LSRs for 2024 Session (4 p.m.)

Friday, November 17, 2023 – Last Day to report all retained bills

Thursday, January 4, 2024 – Last Day to introduce House Bills

Wednesday, January 3, 2024 – Session to act on the Governor’s vetoes from the 2023 session (“Veto Day”)

OTHER

Friday, December 1, 2023 – Deadline for Retirement Benefits Commission to submit final report to the President of the Senate, the Speaker of the House of Representatives, the Senate Clerk, the House Clerk, the Governor, and the State Library.

BENEFITS COMMITTEE

THE NEW HAMPSHIRE RETIREMENT SYSTEM
CY 2022 GAINFUL OCCUPATION COMPLIANCE REPORT
September 27, 2023

To: NHRS Board of Trustees

This annual Gainful Occupation ("GO") Report, summarizing the employment activities of disability recipients during calendar year 2022, is being transmitted herewith for review and action by the Board. This information is based on filings received by NHRS as of September 22, 2023, and is subject to adjustment as additional information is received.

SUMMARY OF REPORTING INFORMATION

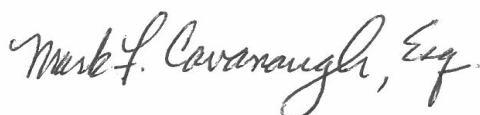
1.	Total Retirees on Disability	1660	
2.	Total Annual Benefits Paid (all disability retirees and survivors)	\$34,723,000	
3.	Total Retirees Required to Report ¹	448	
4.	Total Annual Reported Earnings	\$3,525,465	
5.	No Earnings	180	37.11%
6.	Earnings Not In Excess	149	30.52%
7.	Excess Earnings	11	2.74%
8.	Noncompliant Retirees	108	22.47%
9.	Total Offsets for Excess Earnings	\$122,174	
10.	Avg. Monthly Offset for Excess Earnings	\$925	
11.	Avg. Monthly Earnings for Reporting Retirees	\$1,836	
12.	Avg. Monthly Benefit for Reporting Retirees	\$1,793	
13.	Avg. Monthly Allowable Earnings for Reporting Retirees	\$3,802	

¹ Group II duty disability retirees who are age 45 and have a combined years of service plus years on disability of at least 20 years, and retirees age 70 and over, are exempt from reporting their earnings. In addition, 350 retirees were granted a waiver from filing pursuant to Ret 309.01(c)(4) because they reported no earnings for the prior five calendar years.

NHRS Staff recommends that the Board approve the following actions:

1. Per the GO provisions in RSA 100-A:6, III(b), offset the State annuity and related cost-of-living allowance, up to the amount of the excess earnings. Offsets due to excess 2022 earnings are scheduled to begin with benefits paid in January 2024 and continue for 12 months thereafter.
2. Per Administrative Rule Ret. 309.01(k), withhold the State annuity and related cost-of-living allowance of those disability recipients who have not provided all pertinent documents as required by NHRS. The withholding for noncompliance is scheduled to begin with benefits paid in December 2023 and continue until all requested documentation has been submitted and processed.

Respectfully submitted,



Mark F. Cavanaugh, Esq.
Associate Counsel and Compliance Officer

PERSONNEL PERFORMANCE & COMPENSATION COMMITTEE*Oral Presentation Only*

Callan

October 10, 2023



2023 Long-Term Capital Markets Assumptions

New Hampshire Retirement
System

Angel G. Haddad
Fund Sponsor Consulting

Britton M. Murdoch
Fund Sponsor Consulting

Jay Kloepfer
Capital Market Research

Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

Callan Long-Term Capital Market Assumptions

Guiding objectives and process

Underlying beliefs guide the development of the projections:

- An initial bias toward long-run averages
- A conservative bias
- An awareness of risk premiums
- A presumption that markets are ultimately clear and rational

Reflect our beliefs that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital market expectations

Long-term compensated risk premiums represent “beta”—exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks:

- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- A path for interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan beliefs about the long-term operation and efficiencies of the capital markets

2023 vs. 2022 Risk and Returns Assumptions

Summary of Callan's Long-Term Capital Markets Assumptions (2023–2032)

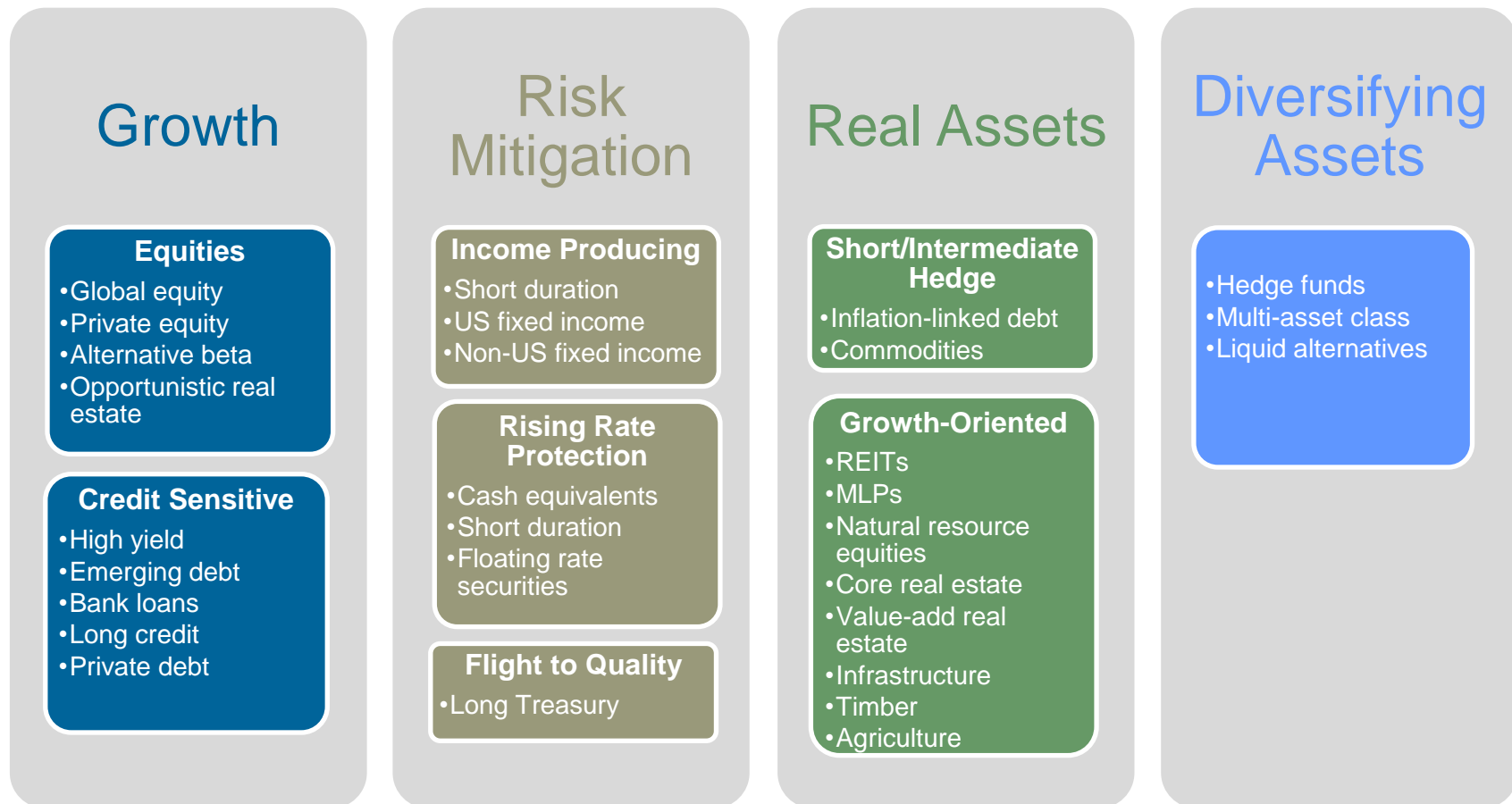
		Projected Return			Projected Risk	2022–2031			vs. 2022	
		1-Year Arithmetic	10-Year Geometric*			Real	Standard Deviation	1-Year Arithmetic	10-Year Geometric*	Standard Deviation
Asset Class	Index									
Equities										
Broad U.S. Equity	Russell 3000	8.75%	7.35%	4.85%	18.05%	8.00%	6.60%	17.95%	0.75%	0.10%
Large Cap U.S. Equity	S&P 500	8.60%	7.25%	4.75%	17.75%	7.85%	6.50%	17.70%	0.75%	0.05%
Smid Cap U.S. Equity	Russell 2500	9.60%	7.45%	4.95%	22.15%	8.75%	6.70%	21.30%	0.75%	0.85%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.45%	7.45%	4.95%	21.25%	8.70%	6.80%	20.70%	0.65%	0.55%
Developed ex-U.S. Equity	MSCI World ex USA	9.00%	7.25%	4.75%	20.15%	8.25%	6.50%	19.90%	0.75%	0.25%
Emerging Market Equity	MSCI Emerging Markets	10.45%	7.45%	4.95%	25.70%	9.80%	6.90%	25.15%	0.55%	0.55%
Fixed Income										
Short Duration Gov/Credit	Bloomberg 1-3 Year Gov/Credit	3.75%	3.80%	1.30%	2.30%	1.50%	1.50%	2.00%	2.30%	0.30%
Core U.S. Fixed	Bloomberg Aggregate	4.25%	4.25%	1.75%	4.10%	1.80%	1.75%	3.75%	2.50%	0.35%
Long Government	Bloomberg Long Gov	4.55%	3.70%	1.20%	13.50%	1.85%	1.10%	12.50%	2.60%	1.00%
Long Credit	Bloomberg Long Credit	5.75%	5.20%	2.70%	11.75%	2.60%	2.10%	10.50%	3.10%	1.25%
Long Government/Credit	Bloomberg Long Gov/Credit	5.25%	4.75%	2.25%	11.35%	2.30%	1.80%	10.40%	2.95%	0.95%
TIPS	Bloomberg TIPS	4.10%	4.00%	1.50%	5.30%	1.35%	1.25%	5.05%	2.75%	0.25%
High Yield	Bloomberg High Yield	6.75%	6.25%	3.75%	11.75%	4.40%	3.90%	10.75%	2.35%	1.00%
Global ex-U.S. Fixed	Bloomberg Global Agg ex US	2.70%	2.25%	-0.25%	9.80%	1.20%	0.80%	9.20%	1.45%	0.60%
Emerging Market Sov Debt	EMBI Global Diversified	6.25%	5.85%	3.35%	10.65%	4.00%	3.60%	9.50%	2.25%	1.15%
Alternatives										
Core Real Estate	NCREIF ODCE	6.60%	5.75%	3.25%	14.20%	6.60%	5.75%	14.20%	0.00%	0.00%
Private Infrastructure	MSCI GI Infra/FTSE Dev Core 50/50	7.15%	6.15%	3.65%	15.45%	7.10%	6.10%	15.45%	0.05%	0.00%
Private Equity	Cambridge Private Equity	11.95%	8.50%	6.00%	27.60%	11.45%	8.00%	27.60%	0.50%	0.00%
Private Credit	N/A	8.00%	7.00%	4.50%	15.50%	6.40%	5.50%	14.60%	1.50%	0.90%
Hedge Funds	Callan Hedge FOF Database	5.80%	5.55%	3.05%	8.45%	4.35%	4.10%	8.20%	1.45%	0.25%
Commodities	Bloomberg Commodity	5.05%	3.50%	1.00%	18.00%	4.05%	2.50%	18.00%	1.00%	0.00%
Cash Equivalents	90-Day T-Bill	2.75%	2.75%	0.25%	0.90%	1.20%	1.20%	0.90%	1.55%	0.00%
Inflation	CPI-U		2.50%		1.60%		2.25%	1.60%	0.25%	0.00%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

Source: Callan

Asset Allocation - By Purpose

Goal-Based Investing



Asset class considerations:

Fees (hedge funds, private equity, private real estate); **Illiquidity** (private markets, private real estate, hedge funds, timber/farmland); **Lack of Transparency** (private equity, hedge funds); **Susceptible to Prolonged Underperformance** (commodities, emerging markets equity); **High Volatility** (emerging markets equity, unhedged non-US bonds, private equity, commodities); **Implementation Risk** (private markets, hedge funds); **Complexity** (hedge funds, private equity, commodities)

2023–2032 Callan Capital Markets Assumptions Correlations

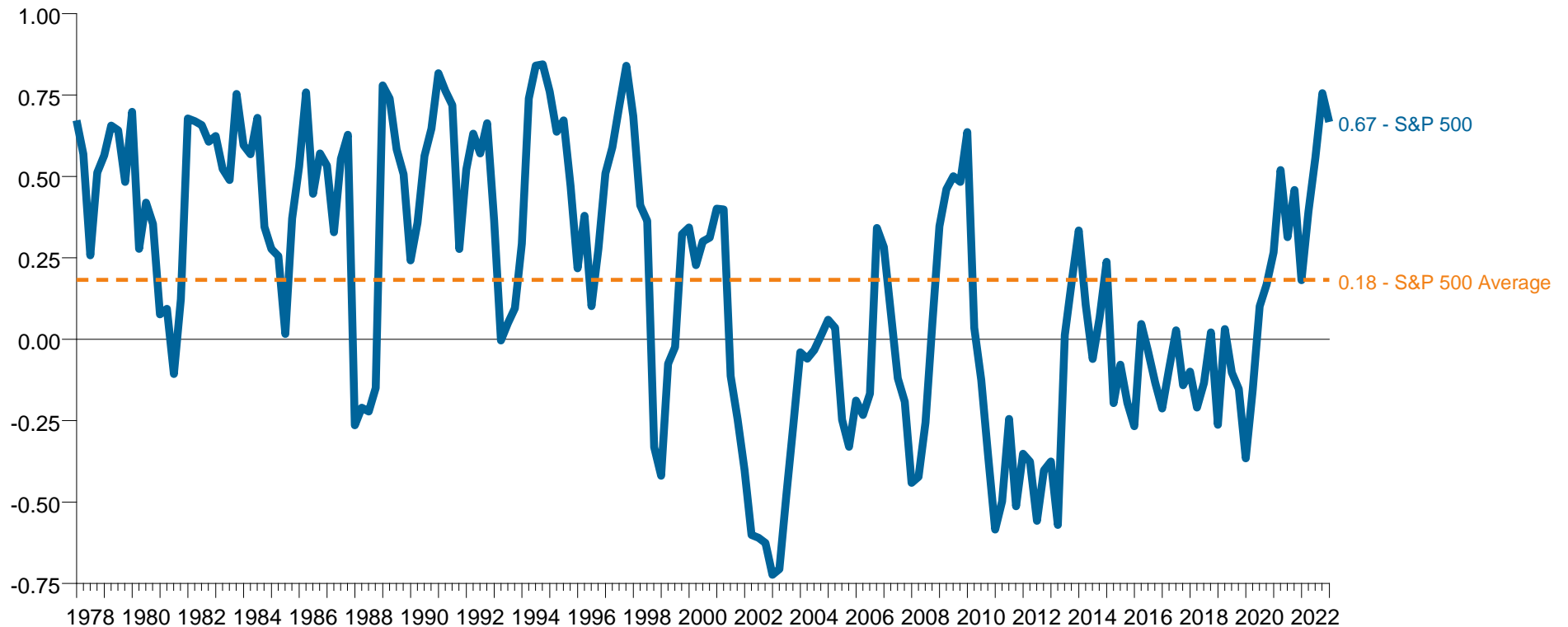
Large Cap U.S. Equity	1.00																				
Smid Cap U.S. Equity	0.88	1.00																			
Dev ex-U.S. Equity	0.73	0.79	1.00																		
Em Market Equity	0.79	0.83	0.89	1.00																	
Short Dur Gov/Credit	0.05	0.01	0.04	-0.01	1.00																
Core U.S. Fixed	0.02	-0.02	0.00	-0.04	0.80	1.00															
Long Government	-0.05	-0.06	-0.03	-0.06	0.67	0.83	1.00														
Long Credit	0.45	0.40	0.40	0.40	0.64	0.80	0.65	1.00													
TIPS	-0.07	-0.08	-0.09	-0.11	0.56	0.70	0.50	0.52	1.00												
High Yield	0.75	0.74	0.73	0.75	0.10	0.09	0.00	0.45	0.02	1.00											
Global ex-U.S. Fixed	0.10	0.07	0.13	0.12	0.50	0.60	0.50	0.55	0.45	0.18	1.00										
EM Sovereign Debt	0.65	0.65	0.65	0.69	0.16	0.19	0.10	0.47	0.08	0.62	0.21	1.00									
Core Real Estate	0.44	0.42	0.42	0.41	0.16	0.14	0.05	0.30	0.09	0.31	0.16	0.29	1.00								
Private Infrastructure	0.48	0.47	0.46	0.46	0.14	0.15	0.10	0.33	0.08	0.34	0.18	0.32	0.76	1.00							
Private Equity	0.79	0.77	0.76	0.75	-0.01	-0.09	-0.13	0.30	-0.11	0.61	0.08	0.51	0.55	0.60	1.00						
Private Credit	0.69	0.68	0.65	0.68	0.11	0.00	-0.05	0.33	-0.12	0.63	0.12	0.50	0.25	0.27	0.67	1.00					
Hedge Funds	0.67	0.63	0.63	0.63	0.23	0.29	0.20	0.55	0.20	0.60	0.25	0.54	0.28	0.30	0.48	0.51	1.00				
Commodities	0.20	0.20	0.20	0.20	-0.05	-0.04	-0.10	0.05	0.00	0.20	0.10	0.15	0.18	0.15	0.20	0.17	0.23	1.00			
Cash Equivalents	-0.06	-0.08	-0.10	-0.10	0.30	0.15	0.12	0.00	0.12	-0.09	0.05	-0.06	0.00	-0.04	0.00	-0.04	-0.04	-0.02	1.00		
Inflation	-0.02	0.02	0.00	0.03	-0.21	-0.23	-0.30	-0.20	0.25	0.00	-0.15	-0.04	0.20	0.10	0.06	-0.05	0.05	0.35	0.05	1.00	
	Large Cap	Smid Cap	Dev	Em Mkts	Short Dur	Core Fixed	Long Gov	Long Credit	TIPS	High Yield	Global ex-US Fixed	EM	Core Real Estate	Private Infra	Private Equity	Private Credit	Hedge Funds	Comm	Cash Equiv	Inflation	

Source: Callan

Did Diversification Fail in 2022?

Stocks and bonds down together in each of the first three quarters of 2022; up together in 4Q22

Rolling 1 Year Correlation of S&P 500 to Bloomberg Aggregate for 45 Years Ended 12/31/22



Are we seeing a return to a regime of higher correlation between stocks and bonds, potentially lessening the diversification benefit of bonds to stocks?

Sources: Bloomberg, Callan, S&P Dow Jones Indices

Callan

Equity

Equity Forecasts

Building blocks

Index	Current Dividend Yield*	Forecast Dividend Yield	Net Buyback Yield	Inflation	Real Earnings Growth**	Valuation Adjustment	Total Geometric Return
S&P 500	1.77%	2.00%	0.50%	2.50%	2.25%	0.00%	7.25%
Russell 2500	1.61%	1.75%	0.00%	2.50%	3.20%	0.00%	7.45%
Russell 3000	1.72%	1.95%	0.45%	2.50%	2.45%	0.00%	7.35%
MSCI World ex USA	3.21%	3.75%	0.00%	1.75%	1.75%	0.00%	7.25%
MSCI Emerging Markets	3.27%	3.55%	-2.90%	3.00%	3.80%	0.00%	7.45%
Aggregate							4.25%
Cash							2.75%

Index	Forecast ERP Cash	Historical ERP Cash^	Delta ERP Cash	Forecast ERP Bonds	Historical ERP Bonds^^	Delta ERP Aggregate
S&P 500	4.50%	7.56%	-3.06%	3.00%	4.95%	-1.95%
Russell 2500	4.70%	7.22%	-2.52%	3.20%	4.61%	-1.41%

* Index yields as of Dec. 31, 2022

** S&P 500 real earnings growth is forecast real GDP growth. R 2500 real earnings growth is 100 bps spread over S&P 500. Developed and emerging markets earnings growth in line with their respective GDP assumptions.

^ Return relative to 90-day T-bills for 40 years ended Dec. 31, 2022

^^ Return relative to the Bloomberg Aggregate for 40 years ended Dec. 31, 2022

Source: Callan

Callan

Fixed Income

10-Year Expected Returns

	Income Return	+	Capital Gain/Loss	+	Credit Default	+	Roll Return	=	2023 Expected Return	Prelim 2023 Expected Return	Change vs 2023 Prelim	2022 Expected Return	Change vs 2022
Cash	2.75%		0.00%		0.00%		0.00%		2.75%	2.40%	0.35%	1.20%	1.55%
1-3 Year G/C	3.45%		0.20%		-0.10%		0.25%		3.80%	3.20%	0.60%	1.50%	2.30%
1-3 Year Government	3.15%		0.20%		0.00%		0.25%		3.60%	3.10%			
1-3 Year Credit	3.85%		0.10%		-0.20%		0.25%		4.00%	3.40%			
Intermediate Gov/Credit	3.95%		0.00%		-0.10%		0.25%		4.10%	3.60%	0.50%	1.70%	2.40%
Intermediate Gov	3.65%		0.10%		0.00%		0.25%		4.00%	3.40%			
Intermediate Credit	4.50%		-0.10%		-0.40%		0.25%		4.25%	3.90%			
Aggregate	4.30%		-0.20%		-0.10%		0.25%		4.25%	3.90%	0.35%	1.75%	2.50%
Government	3.80%		-0.10%		0.00%		0.25%		3.95%	3.60%			
Securitized	4.00%		0.00%		0.00%		0.25%		4.25%	3.90%			
Credit	5.25%		-0.40%		-0.40%		0.25%		4.70%	4.10%			
Long Duration Gov/Credit	6.15%		-1.70%		-0.30%		0.60%		4.75%	4.00%	0.75%	1.80%	2.95%
Long Government	4.90%		-1.80%		0.00%		0.60%		3.70%	3.30%			
Long Credit	6.50%		-1.50%		-0.40%		0.60%		5.20%	4.50%			
TIPS	3.95%		-0.20%		0.00%		0.25%		4.00%	3.25%	0.75%	1.25%	2.75%
Non-US Fixed (unhedged)	2.40%		-0.20%		-0.20%		0.25%		2.25%	2.00%	0.25%	0.80%	1.45%
High Yield	8.00%		0.20%		-2.20%		0.25%		6.25%	6.00%	0.25%	3.90%	2.35%
Emerging Market Debt	7.40%		0.20%		-2.00%		0.25%		5.85%	5.80%	0.05%	3.60%	2.25%
Bank Loans	7.40%		0.30%		-1.60%		0.00%		6.10%	6.10%	0.00%	4.60%	1.50%

Source: Callan

Callan

Alternatives

Private Equity

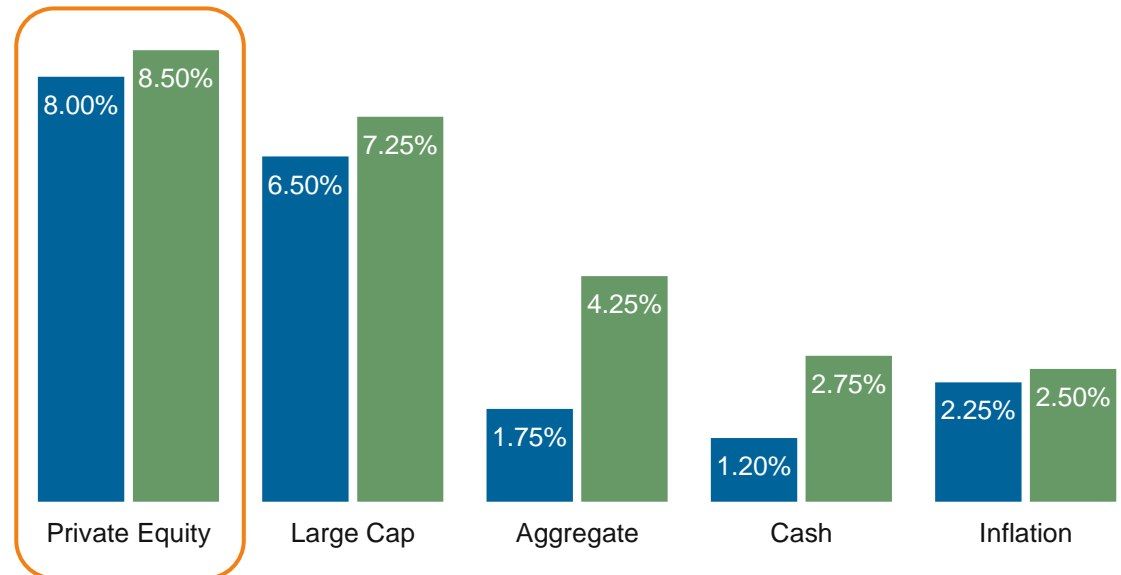
Background

- The private equity market in aggregate is driven by many of the same economic factors as public equity markets. However, we expect private equity to experience some write-downs that have not yet been reflected in performance.
- Consequently, the private equity performance expectations did not rise as much as public equity expectations.
- We see tremendous disparity between the best- and worst-performing private equity managers.
- The ability to select skillful managers could result in realized returns significantly greater than projected here.

2023 private equity return projection:
8.50% (up 50 bps)

Return Projections

● 2022 ● 2023



Source: Callan

Private Credit

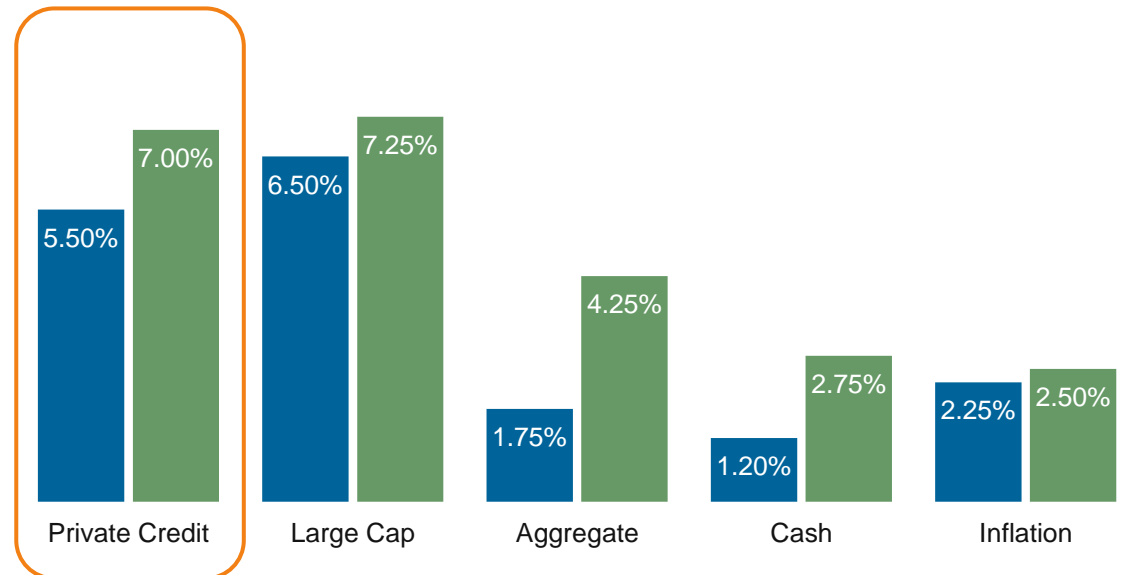
Background

- Return projection is anchored on middle market direct lending where yields have risen along with public fixed income yields.
- While banks are no longer major investors in this market, there is strong appetite from institutional and retail investors.
- A portfolio with more distressed and specialty finance exposure would have a higher return though with a lower current yield and higher volatility and higher correlation to public and private equity.

2023 private credit return projection:
7.0% (up 150 bps)

Return Projections

● 2022 ● 2023



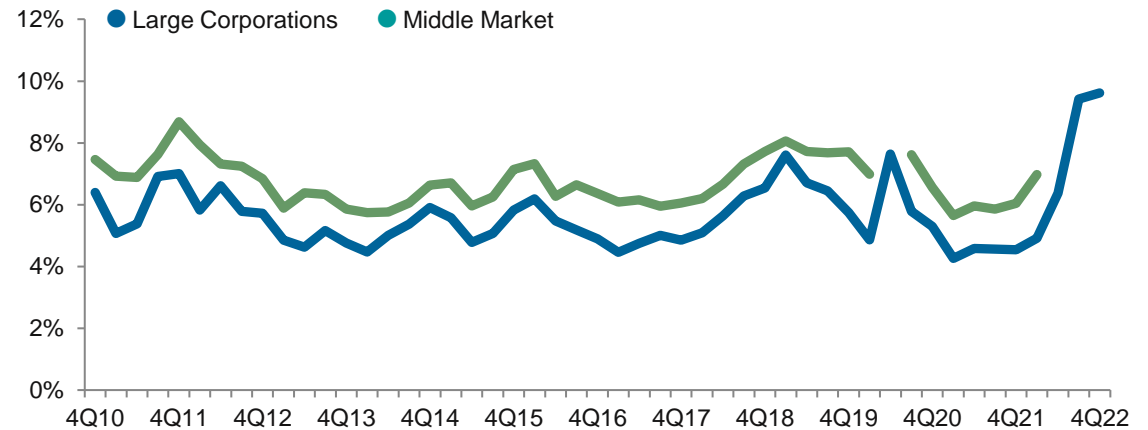
Source: Callan

Private Credit

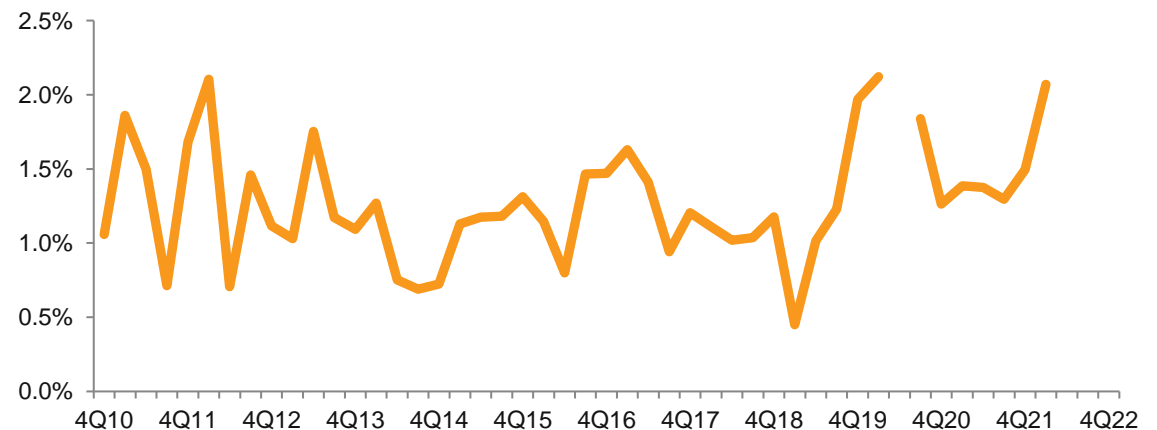
- ▶ Return calculations assume 5.25% cost of leverage and 1% unlevered loss ratio
- ▶ Corresponds to 7% compound return

Unlevered Yield	9.25%
Leverage	0.85x
Levered Yield	12.65%
Management Fee and OpEx	1.7%
Incentive Rate	15%
Hurdle	4%
Incentive Fee	1%
Total Fees and Expenses	2.7%
Loss Ratio	1.85%
Net Arithmetic	8%

Loan Yields



Middle Market Premium



Source: Refinitiv LPC. All-in yield (LIBOR + Spread + OID) assuming 3-year takeout
 Note: 2Q20, 2Q22, and 3Q22 not shown due to lack of data points to calculate a MM institutional all-in yield statistic.

Core Real Estate

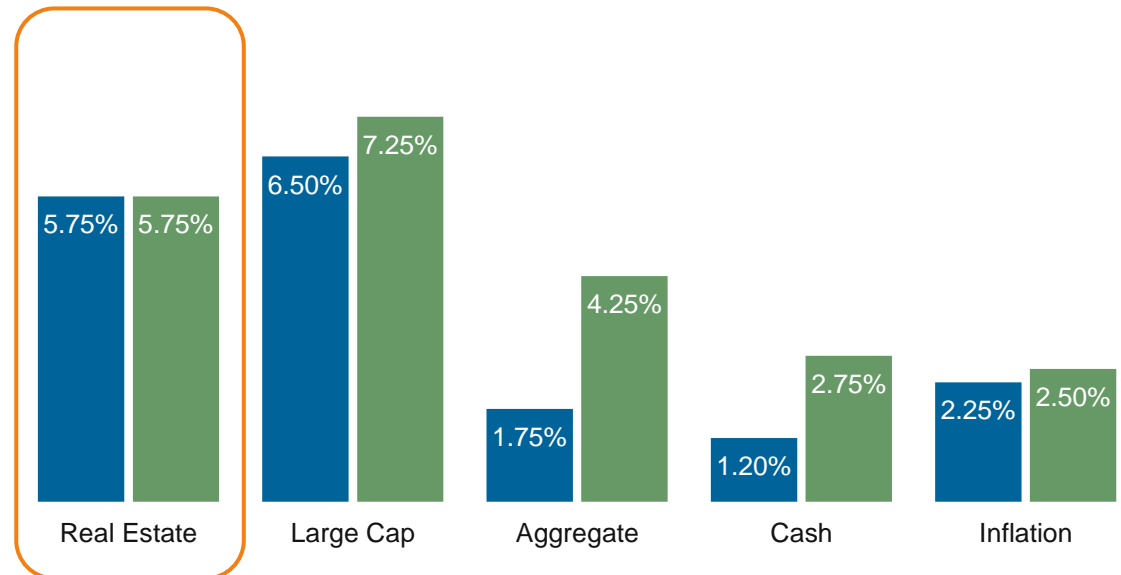
Background

- Real estate has characteristics of equity (ownership and appreciation) and bonds (income from rents). While both public equities and public fixed income saw meaningful increases in projected returns, we believe real estate valuations already reflect much of the potential forward-looking gains, as core real estate logged record appreciation in 2021 and 2022.
- No change to the outlook for real estate returns compared to last year.

2023 real estate return projection:
5.75% (unchanged)

Return Projections

● 2022 ● 2023



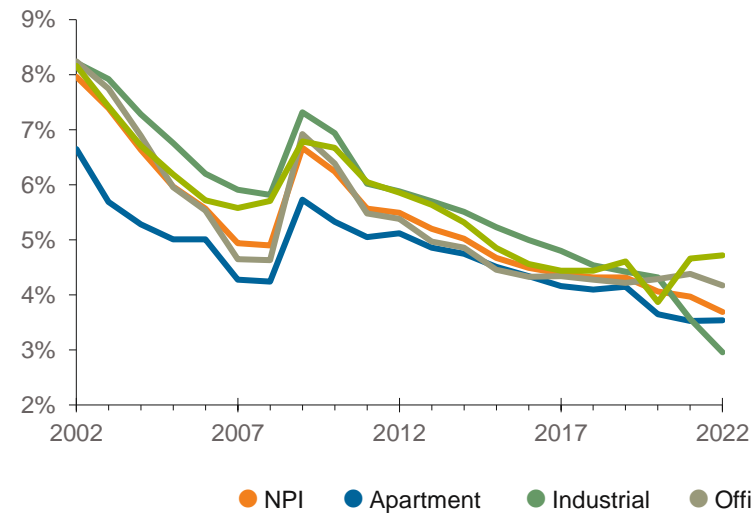
Source: Callan

Core Real Estate

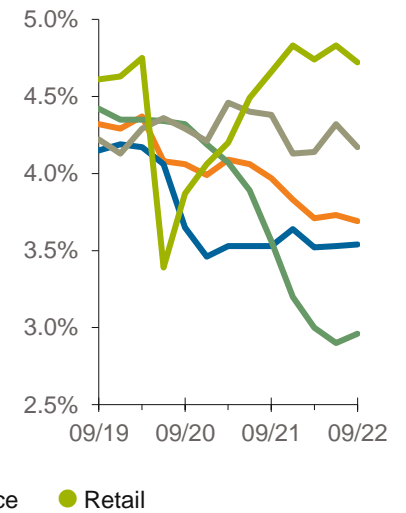
- ▶ 5.75% core real estate compound return (net of fees)
- ▶ Return calculations assume 4.7% cost of leverage and 0.4x debt-to-equity (30% loan-to-value)

Income Return (unlevered property)	5.1%
Appreciation (unlevered property)	0.7%
Total Return (before leverage)	5.8%

Annual Cap Rates



Quarterly



Callan Return Assumptions (unlevered property returns)

	Office	Retail	Industrial	Apartments	Other	NPI Index
Income	4.9%	5.7%	4.8%	5.0%	5.9%	5.1%
Appreciation	-0.1%	0.1%	1.4%	0.9%	0.9%	0.7%
Total Return	4.8%	5.7%	6.2%	5.9%	6.8%	5.8%

Source: NCREIF Property Index (NPI) cap rates correspond to unlevered property valuations

Hedge Funds

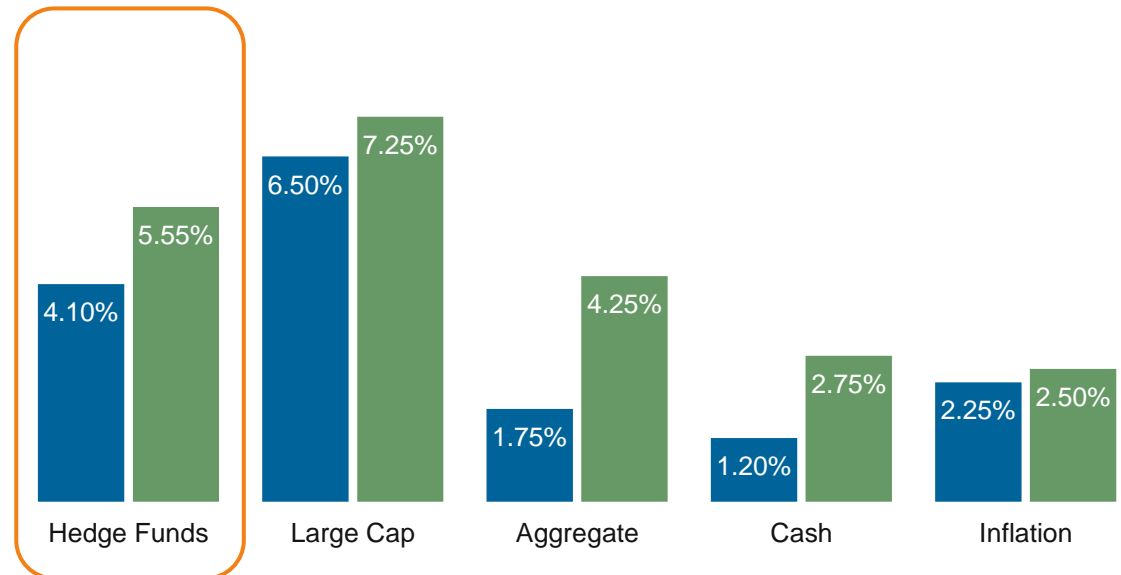
Background

- Hedge funds can be evaluated in a multi-factor context using the following relationship:
- $\text{Expected Return} = \text{Cash} + \text{Equity Beta} \times (\text{Equity-Cash}) + \text{Exotic Beta} + \text{Net Alpha}$
- Callan's 10-year cash forecast is 2.75%.
- Diversified hedge fund portfolios have historically exhibited equity beta relative to the S&P 500 of about 0.4.
- Combined with our equity risk premium forecast, this results in an excess return from equity beta of 1.8%.
- Return from hedge fund exotic beta and illiquidity premia is forecast to be 0.5% to 1.0%, to arrive at an overall expected return of 5.55%.

2023 hedge fund return projection:
5.55% (up 145 bps)

Return Projections

● 2022 ● 2023



Source: Callan

Customized NHRS Capital Market Projections – 10-Year Time Horizon

NHRS Asset Allocation Model 2023-2032

Asset Class	Target Weight	08/31/2023	PROJECTED RETURN		PROJECTED RISK
			Single-Period Arithmetic Return	10-Year Geometric Return	Annualized Standard Deviation
Public Equity	50.0%	49.0%			
Broad US Equity (1)	30.0%	30.9%	8.75%	7.35%	18.05%
Global Ex-US Equity (2)	20.0%	18.2%	9.45%	7.45%	21.25%
Private Market Equity	20.0%	25.5%			
Real Estate Equity	10.0%	11.4%	6.60%	5.75%	14.20%
Private Equity	10.0%	14.1%	11.95%	8.00%	27.60%
Private Debt	5.0%	4.9%			
Private Debt	5.0%	4.9%	8.00%	7.00%	15.50%
Fixed Income	25.0%	19.7%			
Core U.S. Fixed Income (3)	25.0%	19.7%	4.25%	4.25%	4.10%
Cash Equivalents	0.0%	0.9%			
Cash Equivalents	0.0%	0.9%	2.75%	2.75%	0.90%
Inflation				2.50%	1.60%
Total Fund	100.0%	100.0%			
Single-Period Arithmetic Return	7.85%	8.12%			
10-Year Geometric Return	7.25%	7.40%			
Annualized Standard Deviation	13.05%	13.93%			

(1) Broad US equity = 85% large cap, 15% mid and small cap

(2) Global ex-US equity = 70% developed markets, 30% emerging markets

(3) NHRS fixed income benchmarked to the BarclaysUniversal; modeled as 96% Barclays Aggregate, 4% high yield

Current target projected return of 7.25% compounded over 10 years, at a risk (standard deviation) of 13.05%

Source: Callan LLC

Customized NHRS Capital Market Projections – 30-Year Time Horizon

NHRS Asset Allocation Model 2023-2052

Asset Class	Target Weight	08/31/2023	PROJECTED RETURN		PROJECTED RISK
			Single-Period Arithmetic Return	30-Year Geometric Return	Annualized Standard Deviation
Public Equity	50.0%	49.0%			
Broad US Equity (1)	30.0%	30.9%	9.30%	7.90%	18.05%
Global Ex-US Equity (2)	20.0%	18.2%	10.15%	8.15%	21.25%
Private Market Equity	20.0%	25.5%			
Real Estate Equity	10.0%	11.4%	7.35%	6.50%	14.20%
Private Equity	10.0%	14.1%	12.60%	9.15%	27.60%
Private Debt	5.0%	4.9%			
Private Debt	5.0%	4.9%	8.50%	7.55%	15.50%
Fixed Income	25.0%	19.7%			
Core U.S. Fixed Income (3)	25.0%	19.7%	4.65%	4.65%	4.10%
Cash Equivalents	0.0%	0.9%			
Cash Equivalents	0.0%	0.9%	2.85%	2.85%	0.90%
Inflation				2.50%	1.60%
Total Fund	100.0%	100.0%			
Single-Period Arithmetic Return	8.40%	8.70%			
30-Year Geometric Return	7.80%	8.00%			
Annualized Standard Deviation	13.05%	13.93%			

(1) Broad US equity = 85% large cap, 15% mid and small cap

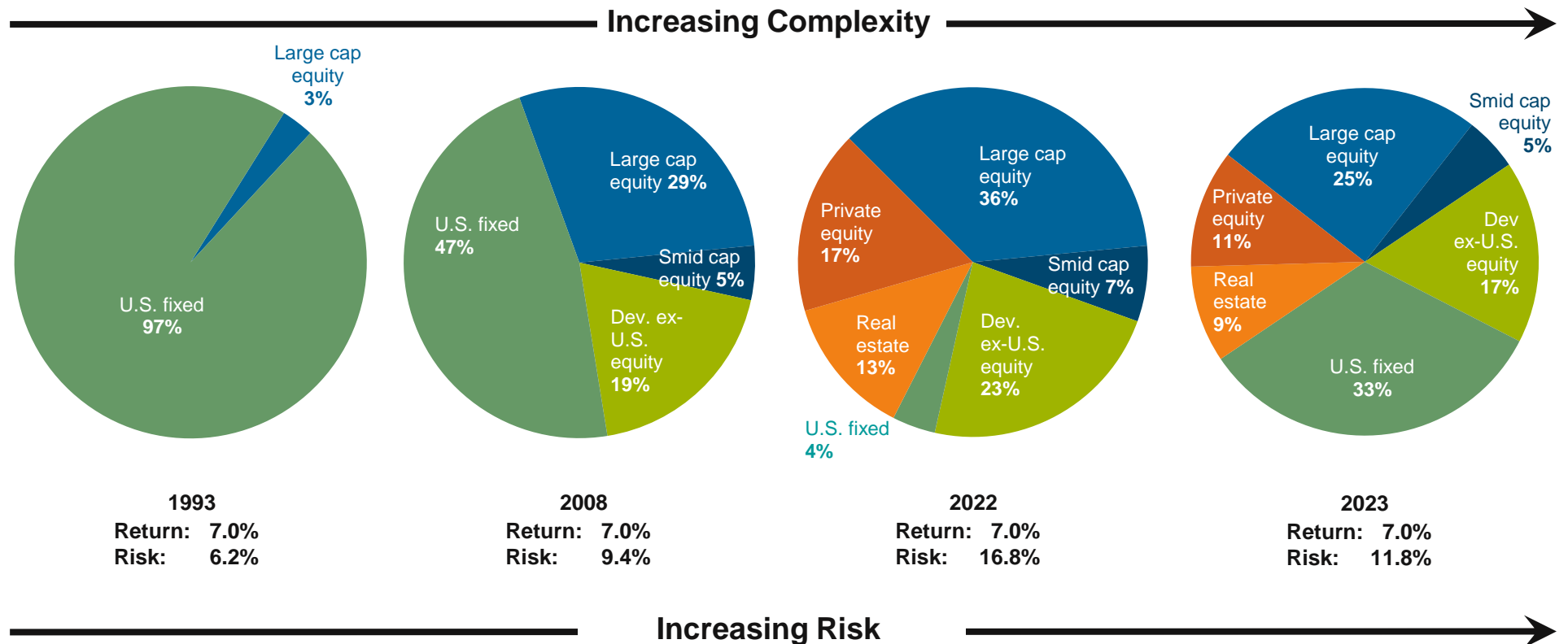
(2) Global ex-US equity = 70% developed markets, 30% emerging markets

(3) NHRS fixed income benchmarked to the BarclaysUniversal; modeled as 96% Barclays Aggregate, 4% high yield

Current target projected return of 7.80% compounded over 30 years, at a risk (standard deviation) of 13.05%

Source: Callan LLC

7% Expected Returns Over Past 30 Years



In 1993, our return expectation for broad U.S. fixed income was 6.85%.

Just 3% in return-seeking assets was required to earn a 7% projected return.

15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return.

In 2022 an investor was required to include 96% in return-seeking assets (including 30% in private market investments) to earn a 7% projected return at almost 3x the volatility compared to 1993.

Today's 7% expected return portfolio is much more reasonable than it was just a year ago, with a third in fixed income and a correspondingly lower level of risk.

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To: Board of Trustees
 From: Jan Goodwin, Executive Director
 Date: September 29, 2023
 Re: Executive Director Operating Report
 Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- COVID-19 Update: Maintaining status quo.

Current Month Highlights

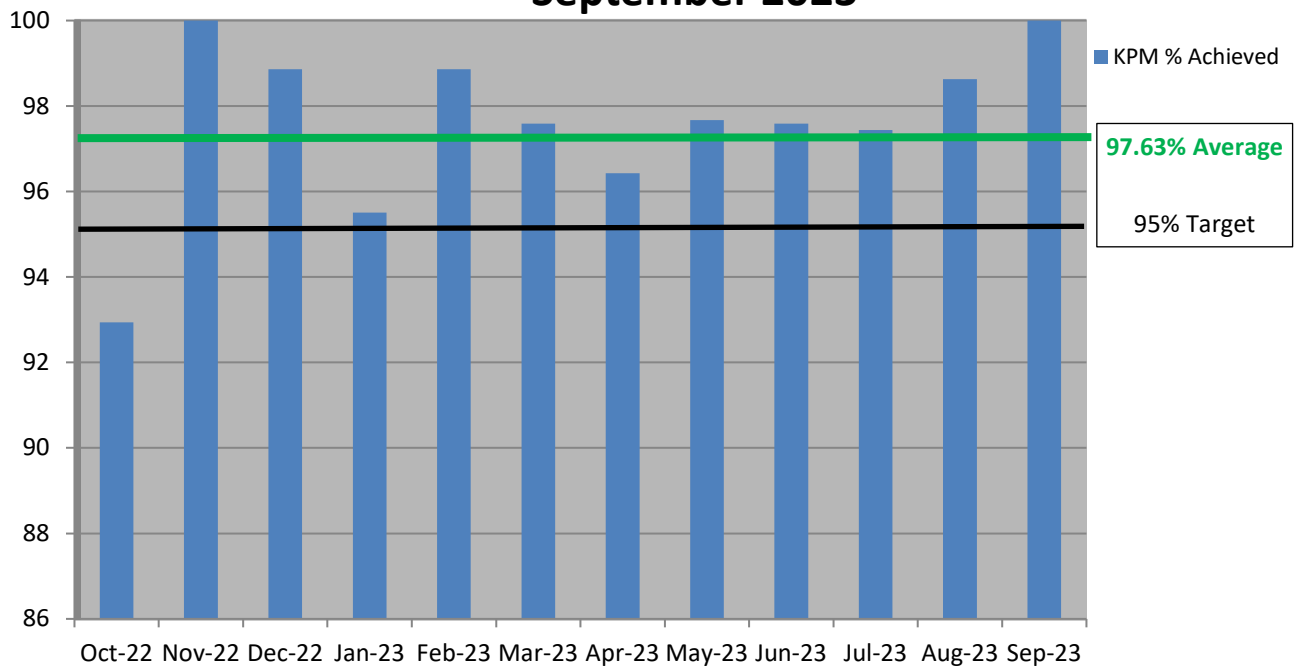
- This month's KPM score was 100%. See 12-month rolling average chart, attached.
- PGV3 is 85% completed. The sandbox for employer testing was shut down on Friday, September 22, at 4 pm ET. Staff completed final activities in PGV2 on Wednesday, September 27, at 4 pm ET. We have entered our blackout period while LRS is preparing the new environments for parallel which will start on Monday, October 9. The next PGV3 All Staff Meeting is scheduled for October 9 to launch the start of parallel.
- All three of the ED's KPMs were met this month.

Upcoming Plans & Projects

- The NHRS legislative team has developed a plan to implement enacted legislation from the 2023 session that conforms with the PGV3 rollout and related activities.
- Staff continues to prepare for the blackout period, which runs from September 28 through October 8, and parallel processing for PGV3, which will begin October 9. Staff has prepared and disseminated messaging materials to retirees, active members, and employers to let them know that some services will take longer than usual to complete and that no employer reports for September can be submitted prior to October 9. There will be no delay in processing retirement applications. Currently, the biggest risk is the high number of employer files that have not yet been validated.
- Staff has made a significant outreach effort to obtain employer files and request, when needed, updated files from employers.
- NHRS staff is developing materials to acquaint staff with the new screens and processes and train employers on the new filing requirements.

Our Mission: To provide secure retirement benefits and superior service.

KPM Rolling 12-Month Average September 2023



PGV3 Status as of September 28, 2023

Project Schedule and Completion					
Task	Scheduled Start Date	Scheduled Finish Date	Baseline Finish Date	Actual Finish Date	Percent Complete
NHRS Version 3	1/2/2019	12/2/2024	12/27/2023		85%
Phase 1 - Project Initiating	1/2/2019	1/25/2019	1/25/2019	1/25/2019	100%
Phase 2 - Project Planning	1/2/2019	2/14/2019	2/14/2019	2/14/2019	100%
Phase 3 - Project Monitoring and Controlling	1/2/2019	4/23/2024	12/22/2022		84%
Phase 4 - Project Executing	1/2/2019	1/25/2024	12/22/2022		93%
Infrastructure	2/14/2019	8/10/2023	9/9/2022		100%
Data Conversion	5/22/2019	11/30/2023	12/22/2022		93%
Requirements Analysis	1/9/2019	7/12/2019	7/12/2019	7/12/2019	100%
D1 - Member Basics and Service Purchases	6/6/2019	12/20/2019	12/11/2019	12/20/2019	100%
D2 - Employer Reporting	10/31/2019	11/10/2020	9/11/2020	11/10/2020	100%
D3 - Benefit Calculations	2/26/2020	9/28/2022	4/23/2021	9/28/2022	100%
D4 - Benefit Maintenance and Insurance	7/9/2021	7/25/2022	8/27/2021	7/25/2022	100%
D5 - Benefit Payroll	2/11/2022	7/26/2023	12/17/2021	7/26/2023	100%
D6 - Year End Processes, Auditing and Security	6/13/2022	5/11/2023	5/11/2022	5/11/2023	100%
D7 - MemberDirect	12/13/2022	8/30/2023	10/13/2022	8/30/2023	100%
Parallel Processing (2 Months)	10/9/2023	11/30/2023	12/22/2022		0%
Phase 5 - Closing	9/13/2023	12/2/2024	12/27/2023		0%
Warranty Support (12 months)	12/4/2023	12/2/2024	12/27/2023		0%

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To: NHRS Trustees
 From: Marie Mullen, Director of Finance
 Date: September 26, 2023
 Re: FY 2023 Call Fire Report
 Item: Action: ☐ Discussion: ☐ Informational: ☒

This is the annual call fire report to the Board and represents FY 23 call fire financial activity.

The Call Fire program was repealed by Chapter 48, Laws of 2014, effective 7/1/14. In addition to the repeal, the legislation required that each person receiving an annual benefit allowance as of the effective date of the act shall continue to receive that allowance.

During the FY 2023 legislative session, House Bill 2 (HB2) provided an additional \$40,000 from the General Fund to shore up the fund. Any of these funds remaining after all beneficiaries are deceased would revert to the General Fund.

The FY 23 Financial Activity Summary is shown below:

NHRS
Call Fire
Financial Activity Summary
For the Fiscal Year Ended June 30, 2023

Balance July 1, 2022	\$16,862.49
¹ Revenue	\$ 0.00
General Fund Appropriation	\$40,000.00
² Benefit Payments	<u>\$(4,819.04)</u>
Balance June 30, 2023	<u><u>\$52,043.45</u></u>

¹The revenue portion of this program was repealed in FY 2014.

²Benefit payments represent payments to two beneficiaries. During FY 2023, one of the two remaining beneficiaries was deceased.

Note: investment earnings and administrative expenses are assumed to be equal, netting to zero.

Our Mission: To provide secure retirement benefits and superior service.

KPM MONTHLY REPORTING

September 2023

“No” answers must include a comment, whereas “Yes” answers can include a comment, but a comment is not required. N/A should be used only in cases where reporting is not required, i.e., task is quarterly (comment must so indicate).

	ACHIEVED			COMMENTS
	YES	NO	N/A	
Overall Score	X			We achieved a 100.00% success ratio. We did not fail any KPMs.
Executive				
1. Distribute weekly email updates to all Trustees on or before the end of business on Friday of every week.	X			
2. Distribute weekly email updates to all staff on or before the end of business on Monday of every week.	X			
3. Maintain expenditures at or less than Trust Fund Budget.	X			
IT				
1. All vital servers maintain an uptime of 99% or higher.	X			
2. All PensionGold requests are prioritized within thirty-one (31) calendar days.	X			
3. All TrackIT (help desk) requests are followed up with a conversation (phone/email) within four (4) business days.	X			
4. Maintain help desk survey scores above satisfactory marks of 95% or higher.	X			
5. All US-CERT email security advisories are placed into the help desk system to be addressed within two (2) business days.	X			
6. Respond to all phone calls within one (1) business day.	X			
7. Answer 95% of My Account hunt group (X3508) calls within sixty (60) seconds.	X			
8. Maintain expenditures at or less than IT budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Finance				
1. Prepare the NHRS Annual Comprehensive Financial Report (ACFR): unaudited by October 31, and the audited ACFR by December 31, in accordance with generally accepted accounting principles.			X	No report due.
2. Reconcile operating bank account within two (2) business days of receipt of bank statements.			X	Suspended due to PGV3 implementation.
3. Produce and distribute monthly actual-to plan-budget reports within ten (10) business days from the end of the prior month.			X	Suspended due to PGV3 implementation.
4. Produce the monthly financial statements (FS) for the Board of			X	Suspended due to PGV3 implementation.

KPM MONTHLY REPORTING

September 2023

	ACHIEVED			COMMENTS
	YES	NO	N/A	
Trustees meeting at least three (3) business days prior to the scheduled Board mailing.				
5. Post all cash receipts for a month, for which we have received the associated voucher, into the pension benefit system (PensionGold) within ten (10) business days after the close of the month.			X	Suspended due to PGV3 implementation.
6. Issue all NHRS annuitant pension payments timely and accurately.	X			
7. File annual payroll tax return (form 945) for the annuity payroll by January 31.			X	No return due.
8. Reconcile all employer accounts sufficiently to allow for interest posting for the reporting month within ninety (90) days of the end of the reporting month, for which we have received all payments and back-up from employers.			X	Suspended due to PGV3 implementation.
9. Process all confirmed post-retirement electronic direct deposit change requests received by the date that the pre-note wizard is run in PensionGold and direct funds accordingly in the same month.	X			
10. Deposit all payments received at NHRS offices, with appropriate supporting documents, into local custodial bank within three (3) business days of receipt, with any payments secured on any intervening days.	X			
11. Annually for the preceding tax year, post electronic 1099-R forms to MyAccount by January 24 and mail hard copy 1099-R forms by January 31 of the subsequent year.			X	No filings due.
12. Answer 95% of Employer Exceptions hunt group (X3532) calls within sixty (60) seconds.			X	Suspended due to PGV3 implementation.
13. Maintain expenditures at or less than Finance Budget as reported in the most recent manager's report (1-month lag).	X			
Investment				
1. Generate investment returns for three (3) and five (5) Year Total Fund Performance greater than the applicable Total Fund Benchmark measured quarterly .			X	Reported quarterly.
2. Generate investment returns for the long-term (25 years) Total Fund Performance greater than the applicable Actuarial Assumed Rate of			X	Reported on June 30 th .

KPM MONTHLY REPORTING

September 2023

	ACHIEVED			COMMENTS
	YES	NO	N/A	
Return (6.75%) measured each June 30.				
3. Generate investment returns for three (3) and five (5) Year Total Fund Performance greater than the applicable peer universe median measured quarterly.			X	Reported quarterly.
4. Complete the IIC's Private Debt & Private Equity Strategic Plan for the calendar year.			X	Reported annually in January.
5. Manage cash flow and make funds available for the payment of monthly retirement benefits, expenses and capital calls on or before the last business day of the month.	X			
6. Manage continuously the asset allocation within approved ranges and rebalance as appropriate.	X			
7. Maintain trading cost at or below median of applicable peer universe.	X			
8. Ensure all proxies are voted consistent with the Board approved Proxy Policy.	X			
9. Distribute complete and accurate Investment Committee materials to all members of the Investment Committee on the Friday before the regularly scheduled monthly Investment Committee meeting.	X			
10. Maintain internal expenditures at or less than Investment Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Legal				
1. Assure no instances of statutory or regulatory non-compliance.	X			
2. Provide disability recommendations to the Board within sixty (60) calendar days of receipt in the Legal Dept.	X			
3. Commence an adjudicative proceeding within sixty (60) calendar days of receipt of administrative appeal.	X			
4. Present a recommended decision to the Board within seventy-five (75) calendar days after the close of the record in an appeal.	X			
5. Perform employer compliance field audits; a rolling average of 2 audits per experienced auditor per month over the prior 12-month period.			X	Suspended due to PGV3 implementation.
6. Present one (1) employer education session per quarter.	X			
7. Answer 95% of Employer Audit/Compliance hunt group (X3681) calls within sixty (60) seconds.	X			

KPM MONTHLY REPORTING

September 2023

	ACHIEVED			COMMENTS
	YES	NO	N/A	
8. Maintain expenditures at or less than Legal Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Member Services				
1. Calculate all preliminary retirement benefits within thirty (30) calendar days of member-requested date of retirement.	X			
2. Calculate 100% of final retirement benefits (EXCLUDING JULY applications) within seven (7) months of member requested date of retirement provided that all statutorily required documentation has been received and all wages have been reported.	X			
3. Calculate 100% of July final retirements within eight (8) months of member requested date of retirement provided that all statutorily required documentation has been received and all wages have been reported.	X			
4. Schedule member meetings with Benefit Specialists within ten (10) business days of request.	X			
5. Issue all member retirement benefit estimates within thirty (30) business days of receipt of request.	X			
6. Enter member enrollment form data into Pension Gold (PG) within fifteen (15) business days of receipt.	X			
7. Process member refund requests within ninety (90) calendar days of receipt of written request.	X			
8. Process service purchases within fifteen (15) business days of request receipt.	X			
9. Process additional contribution calculations within ninety (90) calendar days of receipt.	X			
10. Process all non-employer audit correction related employer contribution refunds within sixty (60) business days of receipt.	X			
11. Post all interest to member accounts within the month that Finance authorized the activity.	X			
12. Adhere to payroll "close" schedule for benefit setup balancing purposes.	X			
13. Process all pension changes within thirty (30) calendar days of receipt/notification.	X			
14. Process retiree death benefit refund payments within sixty (60) calendar days following receipt of all required paperwork.	X			
15. Establish survivorship benefit setup for payment within sixty (60) calendar days following receipt of all required death documentation	X			

KPM MONTHLY REPORTING

September 2023

	ACHIEVED			COMMENTS
	YES	NO	N/A	
and pension recoveries.				
16. Submit new recoupment cases to Recoupment Committee by next committee meeting following discovery.	X			
17. Initiate Recoupment/Benefits Committee recoupment decisions within seven (7) business days of decision.	X			
18. Review and balance updates submitted by employers and TPAs to PG for insurance rate changes received by the first business day of each month within four (4) business days.	X			
19. Complete monthly insurance non-rate changes by processing all authorizations received by the date the annuity payroll is posted with zero carryovers.	X			
20. Render QDRO qualification determinations within federal time limit guidelines.	X			
21. Maintain expenditures at or less than Member Services Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Human Resources				
1. Ensure compliance with all Federal, State and CBA rules and regulations as measured by no notices of violation.	X			
2. Respond to all payroll errors within one (1) business day and correct all payroll errors within one pay cycle.	X			
3. Reduce recruitment time for open staff positions to no more than forty-five (45) business days and open management/executive positions to no more than ninety (90) business days.	X			
4. Maintain expenditures at or less than HR Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
PIO				
1. Schedule a minimum of thirty (30) member/constituent education sessions in Concord and statewide each year.	X			
2. Achieve ninety-five percent (95%) rating of members attending a live education session that the session was "completely/moderately" easy to understand.	X			
3. Meet all deadlines in editorial calendar.	X			

KPM MONTHLY REPORTING

September 2023

	ACHIEVED			COMMENTS
	YES	NO	N/A	
4. Monitor media coverage of NHRS and provide articles to Board, IIC and Staff within two (2) business days.	X			
5. Post updated legislative summaries on www.nhrs.org by the end of business every Friday throughout the legislative session.			X	
6. Prepare and deliver Quarterly Report to the General Court by January 1, April 1, July 1 and October 1.	X			
7. Maintain expenditures at or less than PIO Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Internal Audit				
1. Prepare a Risk Assessment and Fiscal Year Audit Plan for the approval of the Audit Committee annually.			X	Completed in the spring.
2. Execute and present an assurance audit to the Audit Committee every quarter.			X	Already completed for this quarter. Working on the next one.
3. On behalf of the external auditors, administer the GASB census data audits and provide the completed audits to the external auditors by the established due date.	X			
4. Prepare the updated NHRS Audit Issues Tracking Report for the Audit Committee and Board of Trustees at least three (3) business days prior to the scheduled Board/Committee mailing.	X			
5. Distribute complete and accurate Audit Committee materials to all members of the Audit Committee by the Thursday before the monthly meeting.	X			
6. Prepare draft Audit Committee Meeting minutes for review within three (3) business day of the meeting.	X			
7. Maintain expenditures at or less than Internal Audit Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
Contact Center				
1. Respond to all incoming emails within 24 business hours.	X			
2. Maintain an average speed of answer within two (2) minutes.	X			We maintained an average of 0:21.00.
3. Maintain a 95% call satisfaction rating for callers' experience with the Contact Center Representative (CCR).	X			We achieved a 98.48% satisfaction rate.
Administrative				
1. Prepare and distribute monthly Board materials electronically by the Thursday before the Tuesday meeting.	X			
2. Post Board and committee meeting notices according to 91-A:2.	X			
3. Prepare minutes of Board and Board Committee meetings according				

KPM MONTHLY REPORTING**September 2023**

	ACHIEVED			COMMENTS
	YES	NO	N/A	
to the timeliness guidelines in 91-A:2 and 91-A:3, with draft minutes for internal review ready by close-of-business on the Friday following the Board meeting.	X			
4. Prepare draft MTeam minutes and forward to Executive Director for review within 3 business days of meeting; to managers for review within 5 business days of meeting; and post final minutes to the common drive by the Friday following the meeting.	X			
5. Assure that formal complaints are responded to within ten (10) calendar days.			X	No complaints were received during the month.
6. Maintain expenditures at or less than Administration Budget as reported by Finance in the most recent manager's report (1-month lag).	X			
7. Maintain expenditures at or less than Board of Trustees Budget as reported by Finance in the most recent manager's report (1-month lag).	X			

Contact Center September 2023

Phone Calls

	Total	Percentage
Calls addressed by CCRs	2,272	97.93%
Calls forwarded to SMEs	42	1.81%
Calls forwarded to SME Manager	6	0.26%
Total Calls Handled	2,320	100.00%

Post Call Surveys

	Total
Total Calls Handled	2,320
Surveys Completed	74
% of Total Calls Completion Rate	3.19%

Walk Ins

	Total
Number of Walk-Ins	227
Total Walk In Time (hours)	39.15
Average Walk In time (minutes)	10.35

Emails

	Total	Percentage
Emails addressed by CCRs	436	38.31%
Emails forwarded to SMEs	702	61.69%
Total	1,138	100.00%

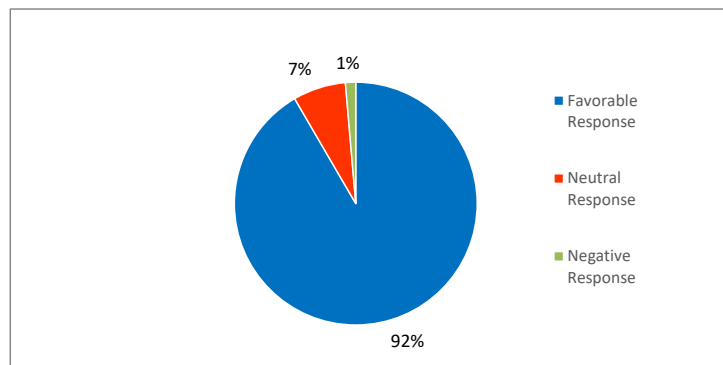
Goal: Answer calls within 2 minutes with 5% abandon rate.

Queue Name	Calls Presented	Calls Handled	Percentage	Calls Abandoned	Percentage	Average Queue Time	Average Speed of Answer	Average Time to Abandon	Average Handle Time	Average
Member	806	796	98.76%	10	1.24%	0:21:00	0:19:00	2:51:00	5:27:00	
Reception	701	670	95.58%	30	4.28%	0:21:00	0:19:00	0:56:00	4:09:00	
Retiree	866	854	98.61%	11	1.27%	0:25:00	0:25:00	0:30:00	4:17:00	
Totals	2373	2320	97.77%	51	2.15%	0:22:20	0:21:00	1:25:40	4:37:40	

NHRS Board Monthly Reporting Package
Process Improvement
September 2023

Executive Director Telephone Survey Results

	Number of Names on Call List	Number of Connections Made	Favorable Response (1)	Neutral Response (2)	Negative Response (3)	Left VM No Call Back (4)	Bad Phone Number/Not in Service/No VM (5)
2023							
September	20	9	7	1	1	11	0
August	50	20	20	0	0	22	8
July	40	17	16	0	1	15	8
June	40	23	21	1	1	15	2
May	50	28	22	6	0	20	2
April	40	23	22	1	0	16	1
March	50	22	18	4	0	22	6
February	30	12	11	1	0	13	5
January	40	18	15	2	1	18	4
2022							
January - December	520	291	265	21	5	174	55
2021							
January - December	130	73	64	8	1	42	15
2020							
January - December	100	50	47	2	1	37	13
2019							
January - December	500	228	216	7	5	150	122
2018							
January - December	490	227	217	8	2	183	80
2017							
January - December	460	214	204	8	2	168	78
2016							
January - December	520	258	230	25	3	189	73
2015							
January - December	510	273	242	28	3	152	85
2014							
October - December	87	36	28	8	0	30	21
	3657	1813	1658	130	25	1266	578



Division: Executive

Date: September 28, 2023

Approved: July 1, 2023

FY 2024 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. Complete implementation of data security assessment recommendations and continue to enhance IT security.	JG/JL	6/30/24	Note: While most of the recommendations have been implemented, there are a few that are ongoing as part of the PGV3 implementation project.
2. Complete project plan milestones for LRS Pension Gold (PGV3) project.	JG/TK	6/30/24	This is a five-year project scheduled for completion in FY 24. Project modifications have added 6 months to the original completion date.
3. Identify areas for improved efficiencies across the organization, including assessing and improving employee engagement.	JG/All	6/30/24	
4. Enhance member, beneficiary, and employer education: identify/review industry best practices for education and engagement; adjust existing education programming, as needed.	JG/MK	6/30/24	
5. Implement agreed-upon elements of Vision for NHRS.	JG/All	6/30/24	



New Hampshire Retirement System
54 Regional Drive, Concord, NH 03301
Phone: (603) 410-3500 - Fax: (603) 410-3501
Website: www.nhrs.org - Email: info@nhrs.org

NHRS DASHBOARD: FY 2023 Fourth Quarter

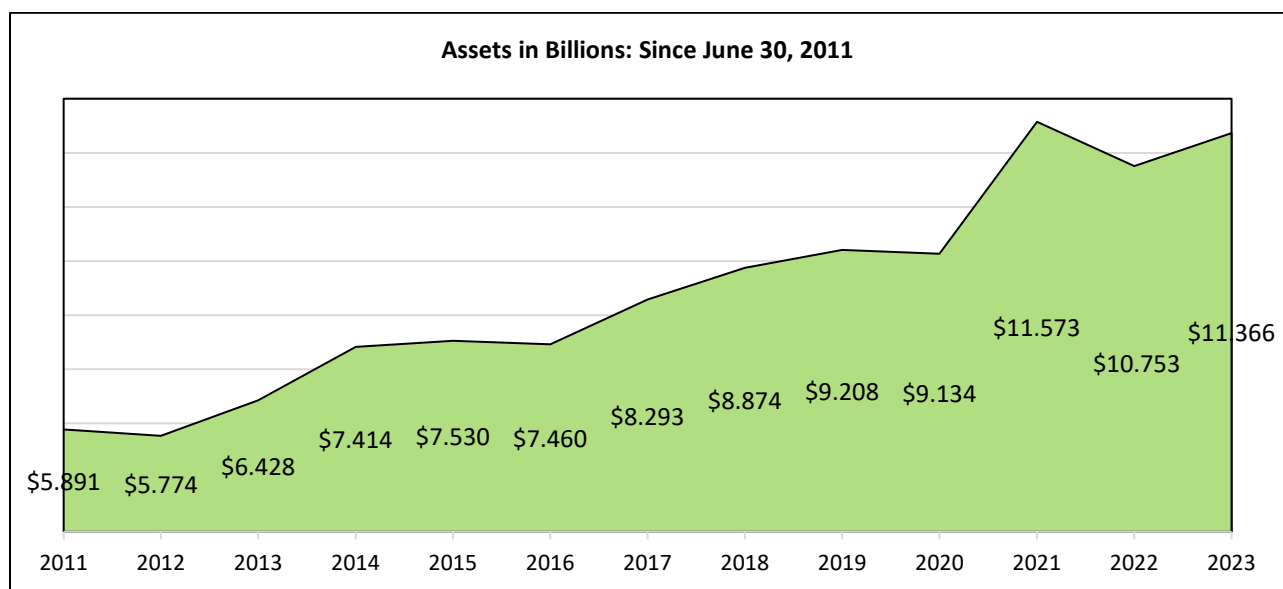
For the period April 1, 2023, to June 30, 2023

Updated: August 2023

TRUST FUND

4th Quarter FY 2022: \$10.753 billion

4th Quarter FY 2023: \$11.366*



* Unaudited

INVESTMENT PERFORMANCE

Net-of-fees returns	FYTD – 6/30/23*	1 yr. at 6/30/22	3 yr. at 6/30/22	5 yr. at 6/30/22	10 yr. at 6/30/22
Total Fund Composite	NA	-6.1%	7.1%	7.2%	8.5%
Peer comparison (percentile)	NA	34th	35th	36th	18th

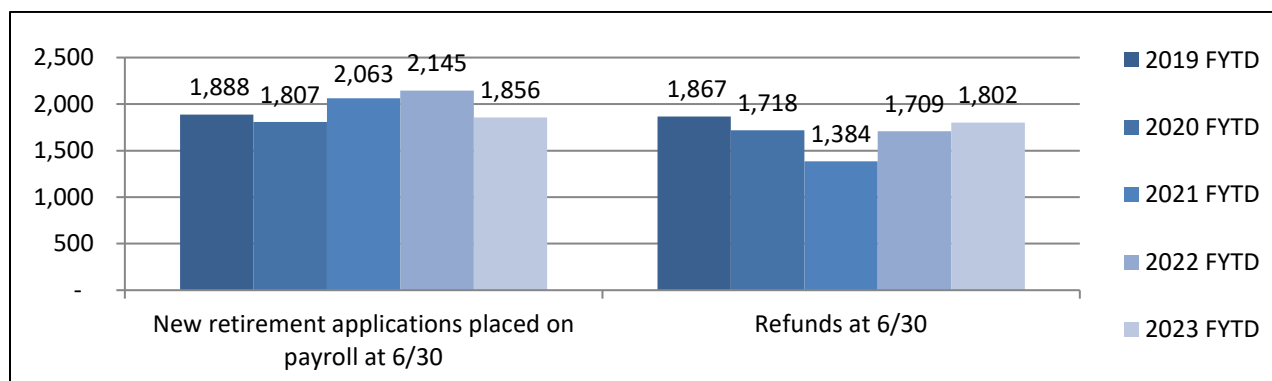
Assumed Rate of Return: 6.75%; * 6/30/23 return unavailable pending valuation of real estate and alternative investments

KEY PERFORMANCE MEASURES

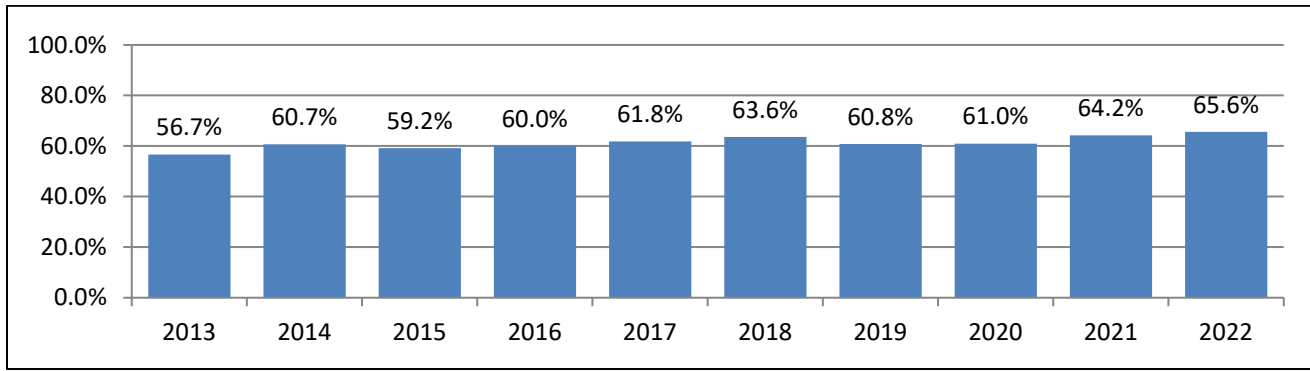
April 2023: 97.59%	May 2023: 97.67%	June 2023: 96.47%	12-month rolling average: 97.13%
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Target: 95%

RETIREMENTS AND REFUNDS

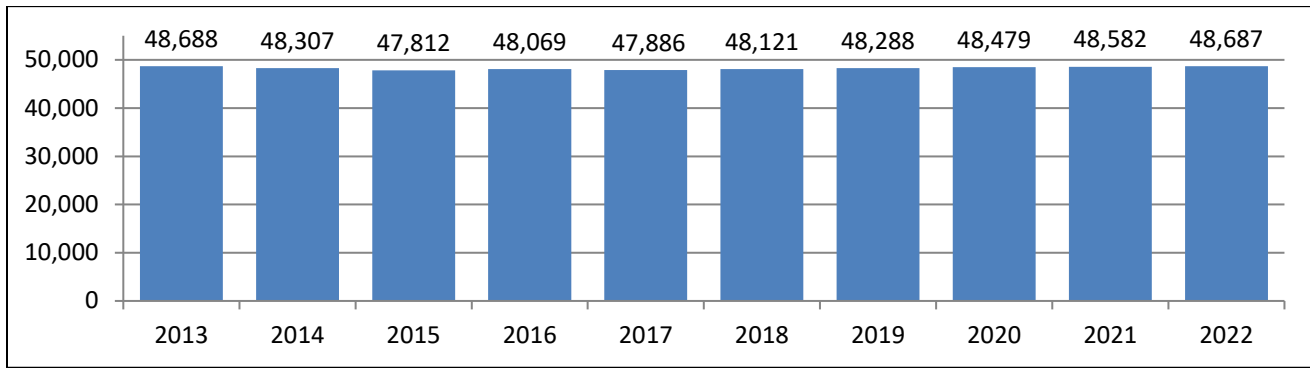


ACTUARIAL FUNDED RATIO

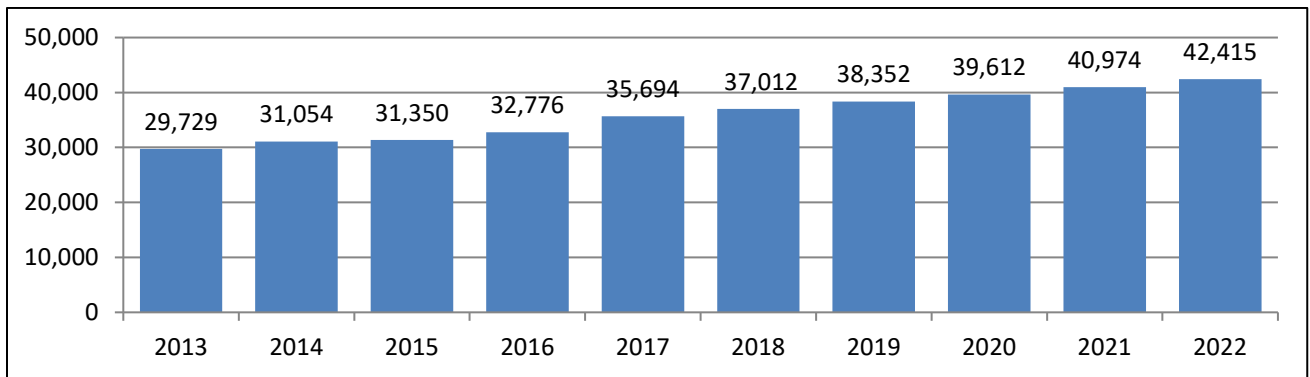


Funded ratio impacted by reductions to assumed rate of return and revised actuarial assumptions effective in 2015 and 2019

ACTIVE MEMBERS



RETIREEES & BENEFICIARIES





NHRS

New Hampshire Retirement System

To: Board of Trustees
 From: Raynald Leveque, Chief Investment Officer
 Date: September 29, 2023
 Re: Investments Operating Report
 Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- September Investment Committee (Committee) Meeting Recap:
 - Staff presented an update on the monthly performance of the public market asset classes of the NHRS, rebalancing, holdings, and the Work Plan.
 - The Committee revisited the August meeting vote to commit \$50 million to the Ares Management (Ares) Pathfinder Fund II, due to additional capacity from the manager. The committee unanimously voted to commit an additional \$25 million to Pathfinder Fund II, subject to contract and legal review.
 - The Committee unanimously voted to approve a five-year contract renewal for Income Research + Management.
 - Callan presented a fiscal year review of the NHRS Marketable Investments Portfolio.

Current Month Highlights

- Preliminary Performance:

As of 8/31/2023	1 Month	Fiscal Year to Date	1-YR	3-YR	5-YR	10-YR
NHRS Total Fund <u>Net</u> Return	-1.34%	+0.33%	+6.54%	+7.69%	+6.65%	+7.74%
Policy Benchmark Return	-1.71%	+0.26%	+6.77%	+5.28%	+6.51%	+7.78%
Net Return Minus Benchmark (in basis points)	+37	+7	-22	+241	+14	-4

Source: Callan, NHRS

- KPM Performance for September 2023:
 - Six reported KPMs were achieved; four are not applicable to this month's reporting.

Our Mission: To provide secure retirement benefits and superior service.

Upcoming Plans & Projects

- October Committee Meeting:
 - Staff will present an update on the monthly performance of the public market asset classes of the NHRS, holdings, and the Work Plan.
 - Callan will present the 2023 Capital Market Assumptions.
 - The Committee will consider a GP fund commitment to the Private Credit portfolio: Strategic Value Partners (SVP) Capital Solutions Fund II. Representatives from SVP will present to the Committee their mandate.
 - The Committee will hear a presentation from non-U.S. equity manager Wellington in conjunction with the five-year contract extension process.
 - The Committee will review a draft of the Comprehensive Annual Investment Report.
 - The Committee will review the 2023 Investment Committee meeting schedule.

Securities Litigation Summary

Staff regularly monitors and participates in class action securities litigation to recover NHRS funds lost through investments in public securities. NHRS engages with our custodian bank to participate in standard US class action litigation (the current custodian is BNY Mellon). NHRS hired ISS in 2018 to provide litigation research and claims filing solution for non-standard US class action and international securities litigation. The table below reports the annual historical recoveries for the NHRS.

Calendar Year	Amount
2005	\$ 624,261
2006	\$ 1,373,631
2007	\$ 2,410,390
2008	\$ 1,980,702
2009	\$ 1,972,216
2010	\$ 1,374,754
2011	\$ 550,324
2012	\$ 835,766
2013	\$ 310,321
2014	\$ 803,621
2015	\$ 627,131
2016	\$ 670,404
2017	\$ 1,280,969
2018	\$ 279,783
2019	\$ 675,406
2020	\$ 289,418
2021	\$ 483,889
2022	\$ 265,959
2023 through August 31	\$ 499,171
Total:	\$ 17,308,115

Source: BNY Mellon, ISS, NHRS, Northern Trust

Our Mission: To provide secure retirement benefits and superior service.

Division: Investments

Date: September 29, 2023

Approved: July 5, 2023

FY 2024 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. Assure compliance with all relevant statutory and regulatory requirements.	CIO/IIC/BOT	06/30/24	No exceptions have been identified.
2. Complete Private Debt/Equity Work Plan for Calendar Year (CY) 2024.	CIO/IIC	12/31/23	
3. Complete Real Estate Work Plan for CY 2024.	CIO/IIC	12/31/23	
4. Maintain investment expenses within budget.	CIO/IIC	06/30/24	Investment expenses are within budget.
5. Implement rebalancing as necessary to address deviations from policy targets.	CIO/IIC/BOT	06/30/24	
9. Complete a review of the Strategic Asset Allocation and, if necessary, recommend an update to the Strategic Asset Allocation policy.	CIO/IIC/BOT	12/31/23	In process.
7. Identify, enroll, and complete a professional development program for the Investment team.	CIO	12/31/23	Completed in September 2023.
8. Conduct an internal review of the NHRS total plan portfolio.	CIO/IIC	03/31/24	On hold – Staff is deciding on pursuing either a build or buy solution for NHRS total plan data.
9. Complete a 5-year Strategic Plan for the Investments division at NHRS for approval by the IIC and the BOT.	CIO/IIC/BOT	12/31/23	In process.



To: Board of Trustees
From: Rosamond Cain, Director of Human Resources
Date: September 29, 2023
Re: HR Operating Report
Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- NHRS is currently recruiting for one staff opening: Investment Officer. The two IT positions have been filled and we are working with the union on changes to the Administrative/Executive Assistant position.
- We have begun using the ADP platform for preemployment onboarding, it is saving time on data entry.

Current Month Highlights

- HR met all four KPMs last month.
- HR is now training on the ADP compensation and benefits modules.

Upcoming Plans & Projects

- We are continuing to evaluate our new staff training process. All training manuals will need to be updated to reflect processing in PGV3.
- HR is continuing to create an all-staff training plan for the remainder of FY 2024, it has been two years since we have had a full training schedule. We are planning two all staff training sessions in the spring of 2024.
- The 2024 succession planning has been postponed from September 2023 to February 2024 in consideration of PGV3 implementation.

Our Mission: To provide secure retirement benefits and superior service.

Division: Human Resources (HR)

Date: September 29, 2023

Approved: July 1, 2023

FY 2024 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. Plan, schedule, and present two trainings for our staff annual training plan.	RC/ED/ET/MT	6/30/2024	In process.
2. Maintain a management development program for middle managers and staff identified as possible managers.	RC/ED/ET/MT	6/30/2024	In process. Currently, we have five staff members pursuing a degree and we are working with four managers on their leadership development plans.
3. Create, implement, and maintain electronic onboarding utilizing the ADP software.	RC/Janet G.	6/30/2024	In process. Two staff start Monday 10/2/2024, we are using the ADP onboarding program with them.
4. Assist in monitoring and maintaining PGV3 staffing levels to keep the project on time and budget.	RC/ET/MT	6/30/2024	Continuing.
5. Monitor and maintain staffing levels for the NHRS Contact Center.	RC/ED/NC/DH	6/30/2024	Continuing.
6. Create, implement, and maintain electronic performance appraisals utilizing the ADP software.	RC/MT	6/30/2024	This project has started as of 9/15/2023.
7. Ensure compliance with all federal, state and CBA rules and regulations.	RC/Janet G./Legal	6/30/2024	Continuing.
8. HR Tech. to identify and enroll in a professional development program.	Janet G./RFC	12/31/2023	In process.
9. HR Mgr. to identify, enroll in, and complete a professional development program.	RFC/ED	12/31/2023	In process.



To: Board of Trustees
 From: Tim Crutchfield, Deputy Director and Chief Legal Counsel
 Date: September 28, 2023
 Re: Legal Team Operating Report
 Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- Following up from Trustee Merrifield's question at the September Board meeting, we received an opinion from Groom Law last week that it is a reasonable interpretation of RSA 100-A that the approval of disability applications on the Consent Agenda can be delegated to the Benefits Committee, while allowing denials to be considered by the full Board. Under this update, Atty. Cavanaugh has provided other examples of Board delegation.
- We also received notice from the IRS that it issued a "no ruling" letter on our PLR request. As a result, the contingent medical subsidy payment provisions passed under the 2021 version of HB 2 cannot be implemented. While the strict language of the relevant provisions called for the Board to certify a favorable determination from the IRS to the Legislative Fiscal Committee and the Director of Legislative Services, we believe it would be good form to notify those parties of the IRS decision not to issue a ruling, as well as individuals at DAS, after this meeting.
- Legal continues to work with PIO on the annual ethics surveys for nonrespondents.

Current Month Highlights

- Over the past 12 months, the Employer Audit Team has completed 29 standard and 23 GASB audits. There are 6 standard audits in process.
- Seven of the eight Legal KPMs this month were achieved. The other KPM is on hold due to competing staff priorities with PGV3.
- 445 Gainful Occupation reports were mailed in early March. 381 have been returned and 343 of those have been processed. The annual report was presented to the Board today.

Upcoming Plans and Projects

- Staff will continue to work on obtaining ethics surveys to provide a final report by year-end.
- Attorney Cavanaugh is working with a potential document management vendor to develop improved procedures for contract administration.

Administrative Appeals

Prior 12 months	Total Cases on Appeal at start of the month	New Appeals	Closed Appeals	Total Cases on Appeal end of the month
Sept. '23	5	1	0	6
Aug. '23	6	1	2	5
July '23	6	1	1	6
June '23	6	0	0	6
May '23	7	0	1	6
April '23	7	0	0	7
Mar. '23	8	1	2	7
Feb. '23	10	1	3	8
Jan. '23	8	3	1	10
Dec. '22	8	2	2	8
Nov. '22	9	0	1	8
Oct. '22	8	2	1	9
Totals		12	14	

Disability Appeals

Prior 12 months	Total Cases on Appeal at start of the month	New Appeals	Closed Appeals	Total Cases on Appeal end of the month
Sept. '23	2	0	0	2
Aug. '23	2	0	0	2
July '23	2	0	0	2
June '23	2	0	0	2
May '23	2	0	0	2
April '23	2	0	0	2
Mar. '23	1	1	0	2
Feb. '23	1	0	0	1
Jan. '22	1	0	0	1
Dec. '22	1	0	0	1
Nov. '22	1	0	0	1
Oct. '22	1	0	0	1
Totals		1	0	

Our Mission: To provide secure retirement benefits and superior service.

Division: Legal/Compliance

Date: September 28, 2023

Approved: June 13, 2023

FY 2024 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. Assist in the PGV3 implementation.	TC	12/31/23	In process.
2. Conduct and document annual review of NHRS legal and governance policies, procedures, and manuals to assure best practices.	TC/MC	12/31/23	In process.
3. Update the annual compliance calendar to ensure statutory compliance in all organizational areas.	TC	12/31/23	
4. Ensure annual compliance with the Voluntary Correction Program Policy.	TC	3/31/24	
5. Assure legal compliance with all legislative proposals adopted and effective in 2023.	TC	6/30/24	In process.
6. Review NHRS website for legal compliance with updates as needed.	TC/MK	6/30/24	In process.
7. Identify, enroll, and complete a professional development program.	TC	6/30/24	

NHRS Board Delegation Examples

- a. **Approval or denial of service retirements under RSA 100-A:5, I(a) and II(a)** *“any member may retire on a service retirement allowance upon application to the board . . .”*
- b. **Administrative actions such as recoupments and restorations to service; See RSA 100-A:14, XIV** *“The board of trustees shall have the authority to recover for the retirement system any benefits deemed not payable under this chapter as a result of a death of any retiree or beneficiary, or as the result of the remarriage of a surviving spouse in receipt of benefits.*
- c. **Contracts that do not require advanced Board approval in accordance with the Procurement Policy.**
- d. **Hiring and firing delegated to staff and the PPPC. See RSA 100-A:14, V** *“The Board shall have the power to employ and compensate . . .”*
- e. **Quarterly legislative reports delegated to staff. See RSA 100-A:14, VII-a** *“The board of trustees shall submit a report each quarter . . .”*
- f. **Annual Member Statements delegated to staff. RSA 100-A:14, XI,** *“The Board of Trustees shall annually notify each active member . . .”*
- g. **Workers’ compensation offsets and recoveries. See RSA 100-A:6, III(c) and (d)**

“(c) Except for payments made under RSA 281-A:37 or compensation which is not earnable compensation under RSA 100-A:1, XVII, any amounts which may be paid or payable to or on account of any member or retired member on account of any disability to which the employer has made contributions under the provisions of any workers' compensation or similar law or plan shall, in such manner as the board of trustees shall determine, be offset against and payable in lieu of any state annuity on account of the same disability.”

“(d) The board shall have the authority to recover from any member or retired member who is a disability recipient overpayments made under this section because the disability recipient failed to notify the retirement system when the recipient began to receive workers' compensation benefits which affect the monthly disability annuity payment from the retirement system.”



To: Board of Trustees
From: Marty Karlon
Date: September 28, 2023
Re: Communications/Legislative Affairs Operating Report
Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- The commission to study retirement benefits and retention of employees created in House Bill 2 (HB2) is under way. NHRS is attending all sessions and providing data to the commission over the next two months.
- PGV3 training for employers is ongoing, with the focus shifting to insurance administration training. More than 20 employer events dealing with monthly wage and contribution reporting were held between July and September.

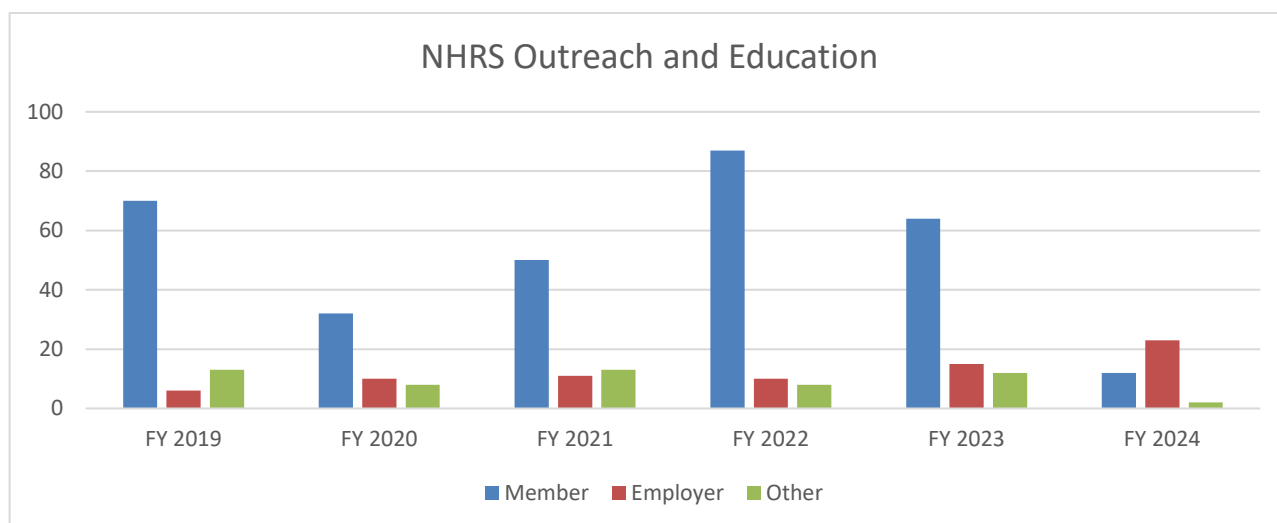
Current Month Highlights

- Continuing to develop PGV3 employer handouts.
- Hosted or participated in three member education events, 10 employer education events and one constituent event.
- Six of seven PIO KPMs were met this month; one was not applicable.

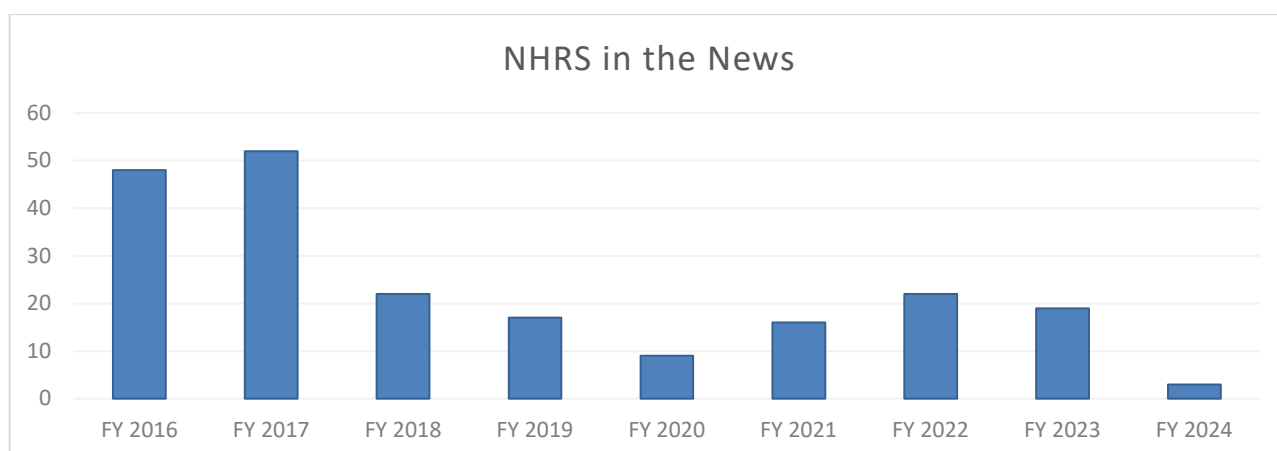
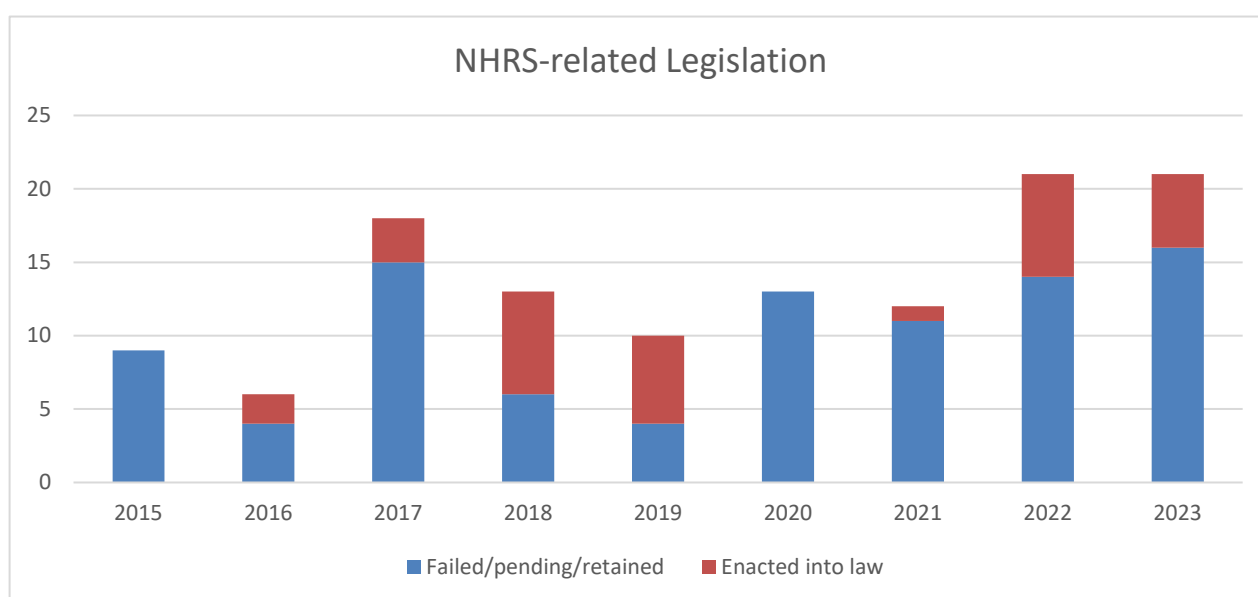
Upcoming Plans & Projects

- Monitoring 2024 Senate Legislative Service Requests (LSRs) for titles related to NHRS.
- Developing PGV3 training handouts related to *My Account 2.0* and 2024 retiree reporting.
- Communications support during parallel processing.
- Scheduled to host or participate in three member education events and three employer education events in October.

Our Mission: To provide secure retirement benefits and superior service.



“Other” events include presentations to member, employer, and retiree organizations.



News articles and commentary in NH and national media outlets in which NHRS is the primary subject.

Our Mission: To provide secure retirement benefits and superior service.

Division: Communications

Date: September 29, 2023

Approved: June 22, 2023

FY 2023 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. In collaboration with the Finance team and PGV3 Project Manager, implement PGV3 employer training and communication plans. *	MK / PIO staff / Finance	1/31/24	In progress.
2. Maintain ongoing internal and external communications for overall PGV3 project. *	MK	3/31/24	In progress.
3. Develop and implement campaign to encourage members and retirees to sign up for <i>MyAccount 2.0</i> *	MK / PIO staff	6/30/24	In progress.
4. Coordinate NHRS interactions with and prepare materials for statutory commission to study retirement benefits and retention of employees scheduled to meet in the summer of 2023.	MK	11/30/23	In progress.
5. Maintain positive and constructive working relationship with the NH Legislature. *	MK	6/30/24	In progress.
6. Grow calendar year-over-year audience for social media channels by 10-15%.	MK / PIO staff	6/30/24	
7. Develop member surveys assessing knowledge and comfort level with NHRS benefits and preferences for additional education efforts.	MK / PIO staff	6/30/24	Note: Survey will be released in FY 25.

8. Update printed & recorded member/retiree/employer presentations impacted by recent legislation.	MK / PIO staff	12/31/23	
9. Identify, enroll and complete a professional development opportunity.	MK	6/30/24	

* - *Aligns with initiatives listed on NHRS Three-Year Strategic Plan.*



To: Board of Trustees

From: John Laferriere, Director of Information Technology

Date: September 30, 2023

Re: Information Technology Operating Report

Item: Action: ☐ Discussion: ☐ Informational: ☒

Significant Developments and Priority Issues

- Cybersecurity Awareness – Phishing testing continues, and IT does not need to implement additional training.
- Security – IT will complete the onboarding of the Managed Security Service Provider (MSSP) by the end of October.
- The MSSP had indicated no new vulnerabilities or threats.

Current Month Highlights

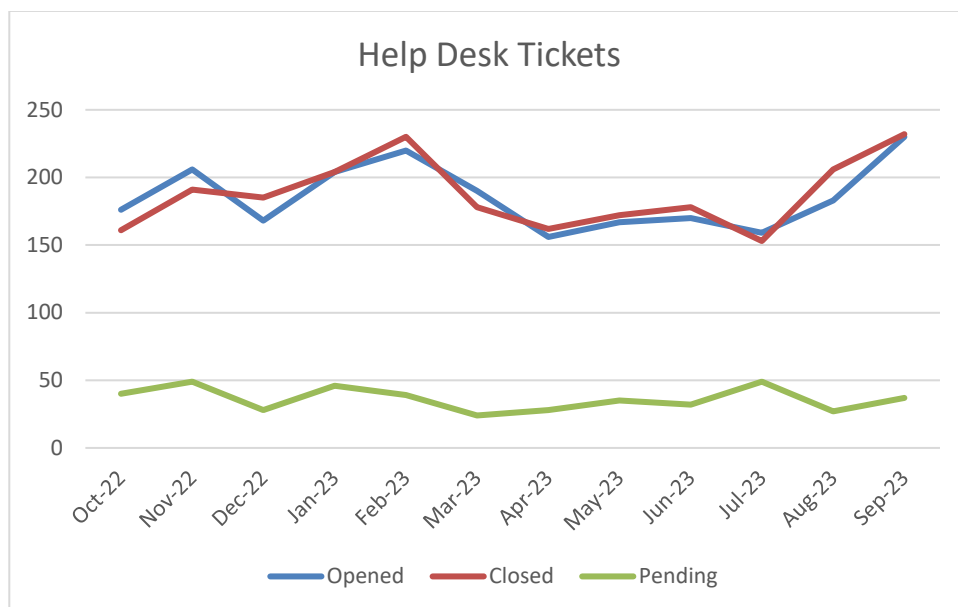
- IT Customer Satisfaction Score – 100%.
- IT met all eight of its KPMs.
- Thirty changes requests were approved and deployed into the production environment.
- The fault-tolerant firewall installation is complete.
- Enterprise network equipment has been installed and is operational.
- The laptop inventory is complete, and the development of the new system image has begun.
- Document management proof-of-concept has started.
- The data center move is complete.
- IT has fully staffed its team.

Upcoming Plans & Projects

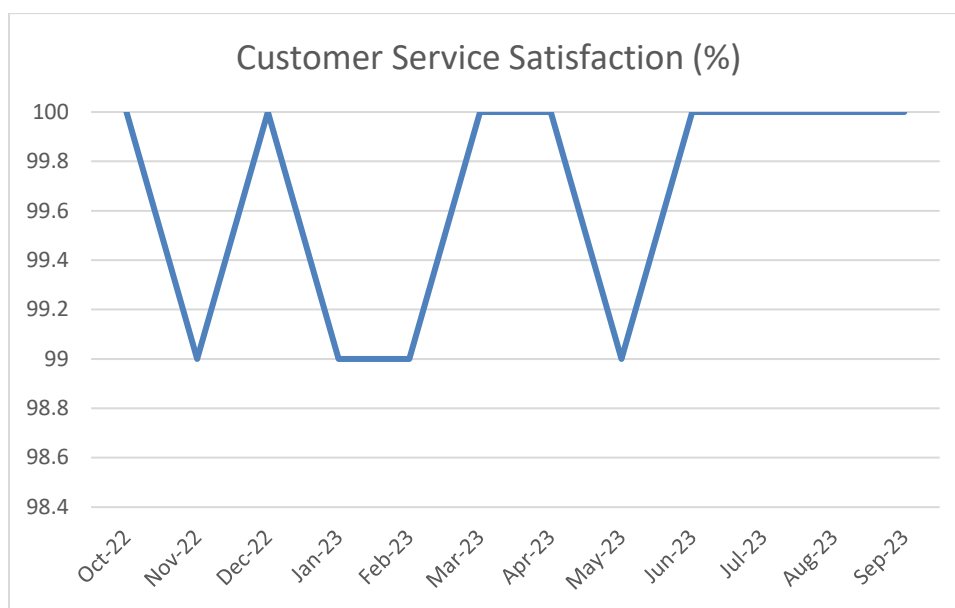
- Complete MSSP onboarding and begin normal operations.
- Identify areas of opportunity for AI chat bots.
- Upgrade ticket support system to include change and inventory management.
- Begin proof-of-concept for enterprise inventory management.
- Complete new network schema.
- Begin the cutover to the new network.
- Install network monitoring system.

Our Mission: To provide secure retirement benefits and superior service.

NHRS Helpdesk Ticket Information by Month



NHRS Customer Satisfaction Scores by Month



Our Mission: To provide secure retirement benefits and superior service.

Division: Information Technology

Date: September 28, 2023

Approved: July 5, 2023

FY 2024 Action Plan Summary

ACTION	PM	DATE	STATUS/COMMENTS
1. Outsource security management to third-party provider.	JL	10/30/2023	Ongoing.
2. Upgrade networking infrastructure.	JL, JO	12/30/2023	Ongoing. Installation of network equipment completed.
3. Perform and complete yearly staff permissions review.	JL	09/30/2023	Started.
4. Upgrade firewall hardware.	JL, JO	09/30/2023	Completed.
5. Replace desktops and laptops with new laptops.	JL, JV	06/30/2024	Ongoing. Deployment planning has started.
6. Perform tasks associated with PensionGold Version 3 (PGV3) implementation, as per contractual implementation schedule.	JL, TK, AS, JO	06/30/2024	Ongoing.
7. Move 80% of the production applications to the cloud.	JL, JO	06/30/2024	Ongoing. Building of cloud environment continues; three production environments have been deployed.
8. Move physical data center to new location.	JL, JO	11/30/2023	Completed.
9. Replace existing phone system with a cloud-based phone system.	JL	06/30/2024	Ongoing. The new platform is being built out.
10. Identify, enroll, and complete a professional development program.	JO	02/28/2024	Ongoing.
11. Replace the existing emergency generator.	JL, CM	08/30/2023	Completed.
12. Install fault-tolerant internet connection.	JL, JO	08/30/2023	Completed.
13. Identify and install an enterprise document management system.	JL	06/30/2024	Ongoing. Proof-of-concept has started.
14. Develop a secure Enterprise transmissions platform for all file transfers.	JO	06/30/2024	Completed.

AI CHAT-BOT DEMONSTRATION

**New Hampshire Retirement System
Board Meeting**

Consent Agenda

Tuesday, October 10, 2023

Disability Application Recommendations

1. J.A. Grant ordinary disability retirement (ODR) to this group I member who worked for the State of New Hampshire and has 15 years and 11 months of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
2. J.D. Grant accidental disability retirement (ADR) to this group II member who worked for a political subdivision and has 19 years and 9 months of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
3. N.E. Grant accidental disability retirement (ADR) to this group II member who worked for a political subdivision and has 14 years and 3 months of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
4. K.K. Grant accidental disability retirement (ADR) to this group II member who worked for a political subdivision and has 27 years of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
5. E.L. Grant ordinary disability retirement (ODR) to this group I member who worked for a political subdivision and has 31 years and 6 months of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
6. J.M. Grant accidental disability retirement (ADR) to this group II member who worked for a political subdivision and has 22 years and 1 month of creditable service, based on medical evidence that supports his claim for permanent incapacity from his work duties due to a medical condition.
7. S.S. Grant ordinary disability retirement (ODR) to this group I member who worked for a political subdivision and has 23 years and 5 months of creditable service, based on medical evidence that supports her claim for permanent incapacity from her work duties due to a medical condition.



To: NHRS Board of Trustees

From: Jan Goodwin, Executive Director

Date: September 28, 2023

Re: September 12, 2023 - Action Items

Item: Action: ☐ Discussion: ☐ Informational: ☒

1. Finalize the revisions to the Committee charters and policies. MC
Action: Completed.
2. Post the 2024 Board meeting schedule. MK
Action: Completed.
3. Provide the Board the cost savings for the internally developed chat bot. JL
Action: Completed.
4. Revise investment reports regarding returns compared to benchmarks. RL
Action: Completed.
5. Implement Board decisions on the Consent Agenda. DC
Action: Completed.

Trustee Travel

No Travel Requests Submitted

BOARD CHECKPOINT DISCUSSION



New Hampshire Retirement System
54 Regional Drive, Concord, NH 03301
Phone: (603) 410-3500 - Fax: (603) 410-3501
Website: www.nhrs.org - Email: info@nhrs.org

TO: Senator Howard Pearl, Chair, Senate Executive Departments & Administration Committee
 Representative Carol McGuire, Chair, House Executive Departments & Administration Committee

FROM: New Hampshire Retirement System Board of Trustees
 (Prepared by Jan Goodwin, Executive Director)

RE: Quarterly Report to the General Court – October 1, 2023

Dear Senator Pearl and Representative McGuire:

Pursuant to RSA 100-A:14, VII-a, the Board of Trustees of the New Hampshire Retirement System (NHRS, the retirement system) is submitting this quarterly report to the General Court.

Here is a summary of NHRS activities during the quarter ending September 30, 2023:

- NHRS expects to have final investment returns for the fiscal year ended June 30, 2023, in mid-October. Unaudited trust fund assets stood at \$11.4 billion on June 30, 2023.
- The multi-year upgrade of the NHRS pension administration database (“PGV3”), which began in January 2019, is now 85% percent complete and on track to become operational by the end of the year. NHRS is conducting parallel processing in October and November, during which time data will be input into the current system and the new system in order to identify any potential issues not addressed in prior testing. This effort is expected to increase response and turnaround times for some member, retiree, and employer processes during the parallel processing period.
- NHRS was notified in late June of a cybersecurity incident involving one of our service providers, PBI Research Services (PBI). PBI provides audit and address research services for insurers, pension funds, and other such organizations. Because PBI provided services to NHRS, PBI has data that includes the name, date of birth, zip code, and Social Security number of NHRS retirees and any beneficiaries receiving a monthly benefit. If an NHRS retiree or beneficiary was affected in this incident, that individual was sent a notification letter from PBI containing instructions to enroll in free credit monitoring and identity restoration services. No NHRS system or network was compromised or otherwise impacted in this incident. A news release summarizing the incident is included with this report.

In addition to this cover letter, the report contains:

- An executive summary of NHRS Board and staff activity from July through September.
- The minutes of the following Board meetings: July 11, 2023; August 8, 2023; September 12, 2023 (draft).
- Investment information on Total Fund through March 31, 2023, which is the most recent quarterly data available.
- Monthly investment information through July 31, 2023, which is the most recent data available.
- A summary of calendar year 2022 working after retirement data reported by participating employers.
- Quarterly Investment Compliance Notice to the Legislative Budget Assistant.
- An “NHRS ... Now You Know” issue brief titled “The Group I pension recalculation,” which was released in August.
- A news release posted on our website regarding a data incident involving one of NHRS’ service providers, PBI Research Services (PBI), that impacted benefit recipients.

If you have any questions or would like additional information, please do not hesitate to contact me.

Respectfully,

A handwritten signature in blue ink, appearing to read "J Goodwin".

Jan Goodwin
Executive Director

cc: Office of Governor Christopher Sununu

Executive Summary of New Hampshire Retirement System (NHRS) Board of Trustees Meetings

July 11, 2023, to September 12, 2023

At the July 11, 2023, regular monthly meeting of the NHRS Board of Trustees, the Board voted unanimously to certify to the Governor that the actuarial cost of the \$500 payment to eligible retirees and beneficiaries contained in HB 2 was \$7.1 million and to authorize the Director of Finance to initiate a request for reimbursement.

Representatives from Apollo Global Management, with whom NHRS has private equity investments, gave a presentation on the U.S. economic landscape, detailing market trends over the past three quarters, the projected economic growth as the Fed raises interest rates to settle inflation, and macroeconomic perspectives relative to the banking sector.

At the August 8, 2023, regular monthly meeting, the Board received preliminary investment performance data as of June 30, 2023. The Total Fund net return for the fiscal year-to-date (FYTD) period was 7.98%. It was noted that these preliminary numbers do not include updated valuations for real estate, private equity, and private credit investments – which make up approximately 30 percent of the portfolio – and that final, audited FY 23 returns won't be available until the fall.

Executive Director Jan Goodwin gave an update on PBI Research Services (PBI) and its recent data incident, which impacted NHRS annuitants. PBI recently notified the NHRS retirees and beneficiaries in a letter of the potential effect of the incident and NHRS provided information on its website. She emphasized that the incident did not compromise NHRS' system or network.

At the September 12, 2023, regular monthly meeting the Board, Trustee Kelliher, who also chairs the Independent Investment Committee, reported that staff continue to work on a total plan analysis project, including a strategic asset allocation review.

The Board voted unanimously to institute a bimonthly meeting schedule beginning in 2024.

Executive Director Goodwin discussed how federal law prohibits public pension entities from accessing the Social Security master death file. As a result, NHRS uses research services such as PBI and LexisNexis to verify annuitant deaths. She apprised Trustees of her recent discussions with several public pension groups about making a concerted effort to change current federal law and allow public pensions access to the Social Security master death file. She reported that

the National Council of Public Employee Retirement Systems (NCPERS) agreed to take the lead on proposing federal legislation.

Throughout the quarter, the Board received regular monthly updates on the status of the retirement system's multi-year pension administration system upgrade project (PGV3), which will replace the current 22-year-old system (PGV2) NHRS is currently using. The project is 85% completed.

Additional details regarding actions and discussions of the NHRS Board of Trustees may be found in the archive of meeting minutes posted on www.nhrs.org. The direct link to this page is:
<https://www.nhrs.org/about-nhrs/board-of-trustees/meeting-minutes>



New Hampshire Retirement System
54 Regional Drive, Concord, NH 03301
Phone: (603) 410-3500 - Fax: (603) 410-3501
Website: www.nhrs.org - Email: info@nhrs.org

October 1, 2023

TO: Michael W. Kane, Legislative Budget Assistant

CC: Governor Christopher, T. Sununu
Rep. Carol McGuire, Chairman, House Executive Departments and Administration
Sen. Howard Pearl, Chairman, Senate Executive Departments and Administration

FROM: New Hampshire Retirement System Board of Trustees and Independent Investment Committee
(Prepared by Jan Goodwin, NHRS Executive Director, and Raynald Leveque, NHRS Chief Investment Officer)

RE: Quarterly Compliance Notice

Dear Mr. Kane:

Pursuant to RSA 100-A:15, VIII(a), we are writing to confirm that New Hampshire Retirement System is in compliance with its duty to make all investment decisions solely in the interest of its participants and beneficiaries and does not have investments in any funds that may have mixed, rather than sole, interest investment motivations.

NHRS pursues an investment strategy designed to achieve its long-term funding requirements. The goal is to meet or exceed the retirement system's assumed rate of return over the long term, while at the same time managing the risk, return, and liquidity of the portfolio.

Respectfully,

Jan Goodwin
Executive Director

Raynald Leveque
Chief Investment Officer

CY 2023 BOARD ACTION CALENDAR

JANUARY

Date		Requirement	Responsible Party
1/10/23	Annual IIC Private Equity/Debt update to the Board	Best Practice	IIC
1/10/23	Report on Status of Statement of Financial Interests due to Secretary of State (Due Annually – 3 rd Friday in January)	RSA 15-A	Trustees & IIC Members
1/10/23	Annual Governance Manual revisions	Best Practice	Board of Trustees
1/10/23	Fiduciary Insurance Renewal	Best Practice	Board of Trustees

FEBRUARY

Date	Board Action Item	Requirement	Responsible Party
2/14 /23	Board and Audit Committee approval of FY21 GASB 68/75 Reports	Best Practice	Board of Trustees
2/14 /23	Trustee Education	Best Practice	

MARCH

Date	Board Action Item	Requirement	Responsible Party
3/14/23	Quarterly IIC report to the Board	RSA 100-A:15,II-a(c)	IIC
3/14/23	Quarterly report to chairpersons of House & Senate ED&A Committees describing recent Board actions including any changes to actuarial assumptions and investment returns. Due 4/1/23.	RSA 100-A:14, VII-a	Board of Trustees

APRIL

Date	Board Action Item	Requirement	Responsible Party
4/11/23	No compliance items this month.		
4/11/23	Trustee education	Best Practice	

MAY

Date	Board Action Item	Requirement	Responsible Party
5/9/23	Review annual Trust Fund Budget (non-statutory portion).	Best Practice	Board of Trustees

JUNE

Date	Board Action Item	Requirement	Responsible Party
6/13/23	Approve annual Trust Fund Budget (non-statutory portion).	Best Practice	Board of Trustees
6/13/23	Quarterly IIC report to the Board	RSA 100-A:15, II-a(c)	IIC
6/13/23	Approve the Strategic Plan.	Best Practice	Board of Trustees
6/13/23	Quarterly report to chairpersons of House & Senate ED&A Committees, describing recent Board actions including any changes to actuarial assumptions and investment returns. Due 7/1/23.	RSA 100-A:14, VII-a	Board of Trustees

JULY

Date	Board Action Items	Requirement	Responsible Party
7/11/23	Annual IIC Real Estate update to the Board	Best Practice	IIC

AUGUST

Date	Board Action Items	Requirement	Responsible Party
8/8/23	No compliance items this month.	RSA 100-A:14, XIII	Board of Trustees

SEPTEMBER

Date	Board Action Items	Requirement	Responsible Party
9/12/23	Review charters for Board Committees.	Governance Manual	Appropriate Board Committee
9/12/23	Annual Independent Medical Examiner (IME) Review	IME Policy	Board of Trustees
9/12/23	Set Board of Trustees meeting schedule for next calendar year.	Governance Manual	Board of Trustees
9/12/23	Annual Board Fiduciary Education	Best Practice	Board of Trustees
9/12/23	Quarterly report to chairpersons of House & Senate ED&A Committees, describing recent Board actions including any changes to actuarial assumptions and investment returns. Due 10/1/23.	RSA 100-A:14, VII-a	Board of Trustees

OCTOBER

Date	Board Action Items	Requirement	Responsible Party
10/10/23	Gainful Occupation Report	RSA 100-A:6, III(b)	Board of Trustees
10/10/23	Office of Foreign Asset Control (OFAC) Compliance Report	Best Practice	Board of Trustees
10/10/23	Annual Comprehensive Financial Report (ACFR) deadline (within 120 days from 6/30/23).	RSA 100-A:15, VI	Board of Trustees
10/10/23	Quarterly IIC report to the Board	RSA 100-A:15, II-a(c)	IIC
10/10/23	Call Firefighter Report	Best Practice	Board of Trustees

NOVEMBER

Date	Board Action Items	Requirement	Responsible Party
11/14/23	IIC prepares Comprehensive Annual Investment Report (CAIR).	RSA 100-A:15, VII	IIC

DECEMBER

Date	Board Action Items	Requirement	Responsible Party
12/12/23	Audited ACFR to Audit Committee	RSA 100-A:15, VI(a)	External Auditor
12/12/23	Audit Committee recommends that the Board approve and accept the audited ACFR.	RSA 100-A:15, VI(a)	Board of Trustees

12/12/23	The IIC recommends that the Board approve and accept the CAIR.	RSA 100-A:15, VII	Board of Trustees
12/12/23	The IIC recommends that the Board approve and accept the IIC meeting schedule for the next calendar year.	Best Practice	Board of Trustees
12/12/23	Quarterly report to chairpersons of House & Senate ED&A Committees describing recent Board actions including any changes to actuarial assumptions and investment returns. Due 1/2/23.	RSA 100-A:14, VII-a	Board of Trustees
12/12/23	Quarterly IIC report to the Board.	RSA 100-A:15,II-a(c)	IIC
12/31/23	Deadline for issuing member statements for fiscal year ending 6/30/23.	RSA 100-A:14, XI	Board of Trustees
12/31/23	ACFR and CAIR delivered per statute.	RSA 100-A:15, VI(c)	PIO

**NHRS Board of Trustees
Committee Membership List
as of June 2023**

Committee	Audit	Benefits	Governance	Legislative	PPCC	Investment
Staff Liaison	Heather Hoffacker	Timothy Crutchfield/ Nancy Miller	Timothy Crutchfield	Marty Karlon	Rosamond Cain	Raynald Leveque
Frederick, Jon		X	X	X		
Hannan, Sue				X	X-Ch	
Henry, Jason	X	X				
Kelliher, Maureen	X					X-Ch
Lesko, Tim	X				X	
Maloney, Robert			X		X	
Martineau, Andrew		X		X		
Martins, Germano	X	X-Ch				
Merrifield, Ken				X-Ch	X	
Mezzapelle, Monica	X-Ch		X			
Provost, Paul			X			X
Quigley, Joshua				X	X	
Roy, Donald		X	X-Ch			
TOTAL MEMBERS	5/5	5/5	5/5	5/5	5/5	2/6*

*Per RSA 100-A:14-b,I, the Independent Investment Committee shall consist of not more than 6 members, and up to 2 of whom shall be Trustees.

New Hampshire Retirement System Board of Trustees
As of June 26, 2023

Jon Frederick, Jaffrey
September 21, 2022, to September 5, 2025
NH Municipal Association

Sue Ellen Hannan, Derry
July 27, 2018, to July 1, 2021
NH Education Association

Jason M. Henry, Brentwood
May 17, 2023, to July 13, 2025
Association of Counties

Maureen Kelliher, Dover
June 18, 2014, to July 13, 2025
Non-member Trustee

Tim Lesko, Concord
January 24, 2018, to November 30, 2022
Non-member Trustee

Robert Maloney, Holderness
July 27, 2018, to July 13, 2024
Non-member Trustee

Andrew Martineau, Bow
December 18, 2020, to July 1, 2024
NH State Permanent Firemen's Association

Germano Martins, Hooksett
August 18, 2021, to July 1, 2024
State Employees' Association

Kenneth Merrifield, Franklin
March 24, 2021, to July 13, 2025
NH State Employer

Monica Mezzapelle, Concord
January 6, 2021, to January 7, 2025
State Treasurer

Paul Provost, Concord
November 2, 2022, to November 2, 2025
Non-member Trustee

Joshua Quigley, Bedford
October 19, 2022, to July 1, 2024
NH Police Association

Donald M. Roy, Jr., North Hampton
July 13, 2011, to July 13, 2025
NH School Boards Association

**Educational Seminars for Board Members,
as of September 15, 2023**

Sponsor	Program	Description
(NCPERS) National Conference on Public Employee Retirement Systems www.ncpers.org	<p>2023 FALL (Financial, Actuarial, Legislative, Legal) Conference October 22-25 Las Vegas, NV</p> <p>NCPERS Accredited Fiduciary (NAF) Program, hosted prior to FALL Conference Modules 1&2 and 3&4 Las Vegas, NV October 21-22</p>	<ul style="list-style-type: none"> ▪ Earn 12 continuing education hours toward Accredited Fiduciary (AF). ▪ Topics of finance, actuarial science, legislative and legal relative to their effects on the pension industry. ▪ Network with colleagues, and/or clients. ▪ Trustee accreditation program for public pension governance; completion of the NCPERS Trustee Educational Seminar is a prerequisite.
(IFEBP) Int'l Foundation of Employee Benefit Plans www.ifebp.org	<p>Trustees Institute Level I Core Concepts February 12-14, 2024 Orlando, FL</p> <p>Trustees Institute Level II Concepts in Practice February 10-11, 2024 Orlando, FL * (Occurs prior to Advanced Trustees & Administrators Institute)</p> <p>Advanced Trustees & Administrators Institute February 12-14, 2024 Orlando, FL</p>	<ul style="list-style-type: none"> ▪ Ideal for new Trustees to learn fiduciary responsibilities, and the technical aspects of serving as a Trustee. ▪ Topics include Trustee responsibility and legal environment, retirement plans, investing health and welfare pension assets, and governance. ▪ Ideal for plan professionals, and for Trustees who've served 3 to 5 years and completed Level I: Core Concepts. ▪ Learn from industry experts on current events and reform initiatives. ▪ Network with peers facing similar challenges – share best practices, ideas, and solutions. ▪ Gain insight and garner resource materials to share with colleagues. ▪ Ideal for Trustees and plan administrators who've served two or more years

		and seek to network and learn about the latest industry issues and trends, attend sessions that include such topics as emerging benefit trends, economic update, investment hot topics, collecting employer contributions, legal and regulatory update, communication and social media, crisis management, artificial intelligence (AI), and cybersecurity.
(NASRA) National Association of State Retirement Administrators www.nasra.org	NASRA Winter Meeting February 23-27, 2024 Washington, DC	Agenda TBD.
(CII) Council of Institutional Investors www.cii.org	CII Spring Conference & 40th Anniversary Celebration March 4-6, 2024 Location TBA	Agenda TBD.

NHRS Abbreviations and Acronyms

BENEFITS

ADR	= Accidental Disability Retirement (job-related)
AFC	= Average Final Compensation
COB	= Compensation over base pay
COLAs	= Cost of Living Adjustments
EDD	= Electronic Direct Deposit
ESDP	= Extra or Special Duty Pay
GI/GII	= Group I (Employee, Teacher) / Group II (Police, Fire)
GO	= Gainful Occupation
IME	= Independent Medical Examiner/Examination
ODR	= Ordinary Disability Retirement (non-job-related)
QDRO	= Qualified Domestic Relations Order
Tier A	= Members vested prior to 1/1/12
Tier B	= Members in service prior to 7/1/11 but not vested prior to 1/1/12
Tier C	= Members hired on or after 7/1/11
TPS	= Treating Physician's Statement
TSA	= Temporary Supplemental Allowance (a one-time retiree payment)

BUSINESS OPERATIONS/VENDORS

APs	= Action Plans
DRAPP	= Data Risk Assessment Project Plan
GRS	= Gabriel, Roeder, Smith & Co (NHRS actuary)
KPMs	= Key Performance Measures
LRS	= Levi, Ray and Shoup, Inc. (PensionGold vendor)

PM	= Plante Moran (NHRS external auditor)
PPM	= Policy and Procedure Manager (database software system for NHRS policies/procedures)
PIP	= Process Improvement Program

GENERAL

ACFR	= Annual Comprehensive Financial Report
AU	= Audit
BOT	= Board of Trustees
CAIR	= Comprehensive Annual Investment Report
EE	= Employee
ER	= Employer
FA	= Facilities
HB 2	= House Bill 2 (2011 version, which made major changes to NHRS benefits)
IIC	= Independent Investment Committee
JLMC	= Joint Loss Management Committee (a.k.a. Safety Committee)
MS	= Member Services
NHRS	= New Hampshire Retirement System
OPEB	= Other Post-Employment Benefits (i.e. Medical Subsidy)
PIO	= Public Information Office(r)
PPCC	= Personnel, Performance and Compensation Committee
P. Sub (or “subs”)	= Political Subdivision (i.e. any NHRS employer other than the state)
RTK	= Right to Know request
SAU	= School Administrative Unit
SD	= School District
UAAL	= Unfunded Actuarial Accrued Liability

IT

CO-LO	= Co-location site for backup servers
DRS	= NHRS Data Reporting System (employer portal)
PG	= Pension Gold (current pension application from LRS)
PGV3	= Pension Gold Version 3 project

LEGISLATIVE

ED&A	= House (or Senate) Executive Departments and Administration Committee
HB	= House Bill
ITL	= Inexpedient to Legislate
JLCAR	= Joint Legislative Committee on Administrative Rules
LOB	= Legislative Office Building
LSR	= Legislative Services Request (a request to draft a bill)
OTP	= Ought to Pass
SB	= Senate Bill
SH	= State House
VV	= Voice Vote

OTHER

BCCRR	= Boston College Center for Retirement Research
COB	= Close of Business
EOB	= End of Business
GASB	= Governmental Accounting Standards Board
G&C	= Governor & Executive Council
JRP	= Judicial Retirement Plan (not affiliated with NHRS)

NASRA	= National Association of State Retirement Administrators
NCPERS	= National Council on Public Employee Retirement Systems
NCTR	= National Council on Teachers Retirement
NIRS	= National Institute for Retirement Security