Final Summary Recommendations:

An Assessment of Innovative Financing Approaches and the Michigan Natural Resources Trust Fund

November 2015

Prepared for
Michigan Natural Resources Trust Fund Board

Submitted by
Innovative Finance Workgroup

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Note: The Workgroup would like to extend a special thanks to staff of the Michigan Department of Natural Resources for participating in this effort.

Innovative Finance Workgroup Summary and Recommendations

Michigan Natural Resources Trust Fund

In early 2015, the Michigan Natural Resources Trust Fund (MNRTF) Board held a meeting of stakeholders entitled, *The Future of the Trust Fund.* At this meeting, stakeholders raised a number of questions and ideas focusing on how to increase the MNRTF's resources and leverage its existing resources for greater impact. At that meeting, The Nature Conservancy was asked to organize and facilitate a workgroup of financial experts, MNRTF staff and representatives of the MNRTF board, to develop innovative finance recommendations that could be considered by the MNRTF Board to maximize the Fund's long term impact. This effort arises out of a desire by the Board to develop innovative financing concepts and organizational management strategies to help maximize and leverage the spending potential of the Fund for greater impact.

Several key questions were examined:

- What areas of innovation exist (e.g., financing, bonding) to leverage and maximize MNRTF grant-making potential?
- What are the potential program strategies, policies and procedures that could be employed to increase proactive, opportunistic and catalytic grant-making and favors desirable recreation and conservation outcomes?
- What are the constitutional and/or major statutory changes that might be needed to expand MNRTF grant-making potential?

Three face-to-face meetings were held by the workgroup between May and November 2015 to address these questions, which resulted in the following recommendations for consideration:

1. **Adjust the current asset allocation of the MNRTF investments to increase the rate of return.**

   Background

   The current asset allocation was reviewed to identify the potential to increase earnings of the MNRTF by incurring slightly more risk for a higher rate of return. As of December 31, 2014, the asset allocation was approximately 70 percent bonds, 16.5 percent equities, and 14 percent alternatives (e.g., real estate, commodities, hedge funds, private equity), a relatively conservative fund mix. Adopting a slightly more aggressive fund mix has the potential to increase earnings and address inflation.

   Page 12 of the attached appendix highlights how the current investment mix could increase the expected return with a slightly more aggressive fund mix. The state treasurer determines how the portfolio is structured based on how much cash is needed annually. The current strategy results in a 4.5 percent rate of return, but a more aggressive targeted return could be as high as 6 percent.

   Authority to implement:

   Under Act 451 of 1994 the State Treasurer has the fiduciary responsibility of the investments and has broad statutory latitude on making diversifying and return generating strategies, similar to all Michigan public pension funds.

2. Adjust the spending rule from 2.5 percent to a minimum of 3.5 percent, or higher, dependent upon project priorities and if annual investment returns can support an increase.

Background

Increasing the current spending rule to expend more money on new projects or for annual debt service payments (see Recommendation No. 6) is recommended by the workgroup. MNRFT funding could be increased by approximately $6 million if the current spending rule was increased from 2.5 percent to 3.5 percent. The workgroup agreed, however, that the consideration of a slightly more aggressive asset allocation (Recommendation No. 1) should be addressed first, because it would inform and help shape the decision to modify the spending rule. It was also recommended that the spend rule, if adjusted, should be based upon a 3-year rolling average.

Authority to implement:

MNRTF's spending percentage (currently 2.5 percent) is a board policy and can be adjusted at the Board's discretion.

3. Explore whether the MNRTF must maintain the acquisition or development "identity" on funds returned.

Background

The workgroup researched and consulted with the Attorney General's office to determine whether the revenue from grants returned unused have to maintain their original designation of *development* or *acquisition*. Upon the informal review by the Office of the Attorney General, it was determined that the revenues do not retain their identity of development or acquisition. The returned revenues however will have to have the formula applied once again as they are awarded.

Authority to implement

The Michigan Constitution contains the authority to implement.

4. The MNRTF Board should adopt the following principles in managing the MNRTF:

- Rename all reserve and growth funds as "Stabilization Fund"
- Treat the MNRTF as an endowment to be maintained and utilized in perpetuity
- Anticipate market fluctuations by maintaining an appropriate investment portfolio with adequate resources to offset declines in income
- Be prepared to act on large initiatives and statewide priorities.

Background

The workgroup recommends that the current *growth* and *stabilization* funds be relabeled as the *stabilization* fund. The workgroup noted that any funds above $500 million provide a safeguard from market fluctuations and inflation. The workgroup agrees that the endowment must be protected to continue to provide MNRFT grants in perpetuity, retain flexibility to address inflation, absorb volatility investment returns, and fund large scale priorities.

Authority to implement:

MNRTF Board has the authority to adopt this recommendation.

5. **Bonds are a possible vehicle to fund statewide recreational projects and priorities.**

   Background
   Bond financing is long-term borrowing that states and local governments frequently utilize to finance long-lived infrastructure assets. Bonds provide the borrower with external funds to finance large infrastructure or capital investments. One attractive feature of state bonds is they can be issued tax-exempt which offers additional appeal to investors

   If $75 million could be secured through bond financing for project expenditures over a three-year period, the MNRTF could continue to issue grants with half of its annual revenue stream and dedicate the remaining half to debt service retiring the bonds over a defined time period.

   If bonding were to be pursued, the Michigan Strategic Fund (MSF) is recommended as a potential vehicle. MSF is a program designed to foster greater coordination of state policies to make available public and private development finance opportunities in order to expand the number of jobs associated with recreation, agriculture, forestry, business, and industry. A business plan for execution over three years is necessary as part of a bond issuing strategy. An inter-local agreement could also be used to include "in-kind" services as part of the match requirement to ensure that program guidelines are met. Lastly, an influx of resources of this kind could increase the need for administrative capacity and those direct costs could be included in the financing. Staffing capacity could be addressed through limited term employees or third party contracting.

   Authority to implement:
   MNRTF Board has the authority to recommend bonding. MSF has the authority to bond. Michigan DNR would request a line item appropriation for debt service.

6. **Work with MNRTF staff and the Board to streamline administrative requirements, expand grant award frequency, and provide regional planning to communities to identify priority projects.**

   Background
   The workgroup identified ways to streamline administrative aspects of the program to accelerate grant awards if a substantial increase in revenue was to occur. Streamlining the MNRTF grant processes would also allow MNRTF staff a more proactive role in stimulating integrated regional planning, enhancing collaboration, and leveraging resources. Such conditions could be triggered by a priority such as the Iron Belle Trail initiative, or the MDNR Land Strategy (e.g., the goal to establish Great Lakes public access every five miles of shoreline), or future potential priorities. The workgroup identified potential opportunities to support these objectives. For example, it is possible to:

   - Explore legislative approval of a lump sum appropriation for high priority projects to be managed and executed by the MNRTF Board
   - Award projects in phases to span multiple years enabling large projects to be funded
   - Increase the number of application deadlines throughout the year
   - Manage annual cash-flow and projections to enable more than one grant approval cycle
   - Increase the number of supplemental bills annually submitted for legislative approval to increase cash flow to projects, enabling timely project development
   - Streamline administrative functions to:
     - Process a greater volume of grant applications

- Enable staff to facilitate regional projects to enhance collaboration, leverage MNRTF resources, and identify additional priority initiatives. The regional role MNRTF staff might play could be aligned with the Administration's prosperity regions, strengthening integration with multiple state department strategies.

Increasing the number of grant application deadlines presents an opportunity to encourage local innovation and align the program with timely opportunities. If increased funding becomes available additional grant cycles will accelerate project completion if legislative action is completed. The DNR would need to refine its processes to determine if staff is sufficient to process the additional grant applications that may be generated due to an increase in available funding. If additional administrative resources are needed, a funding and staffing or outsourcing plan would need to be developed.

<u>Authority to implement:</u>
The MNRTF Board and the Michigan Department of Natural Resources has the authority to implement administrative process changes.

7. Continue to grow the MNRTF to maintain purchasing power, index to inflation, and dedicate mineral revenue to natural resources for the future.

<u>Background</u>
Amendment of the Constitution is not recommended at this time. However, the workgroup recommended that if in the future there is an initiative to amend the Constitution, that consideration be given to indexing the MNRTF to inflation, as the State Park Endowment Fund is structured. Moreover, it is important to seek permanent dedication of mineral revenues to natural resource protection. Under the current constitutional language, once the State Park Endowment Fund reaches $800 million, the mineral revenue is to be deposited as provided by law. Revision of this language to dedicate those revenues to natural resources for the future should be pursued before the end of 2018.

<u>Authority to implement:</u>
Constitutional Amendment.

Michigan Natural Resource Trust Fund

Asset Allocation Recommendations

November 10, 2015

Prepared By Bureau of Investments

Michigan Department of Treasury

For any questions on this report, please contact the Bureau of Investments.

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Information as of September 30, 2015

Agenda

- Asset Return Expectations
- Portfolio Objectives
- Proposed Asset Allocation - 2 Steps
- Liquidity
- Return
- Safety - Maintaining Assets > $500 million
- Conclusion

Return Expectations Are Low

Current 10-year Treasury yield near historic lows.

S&P 500 Index

Performance since October 2008.

Model Assumptions

Aon Hewitt's Return and Risk Assumptions.

Investment Categories	10-Year Expected Nominal Return	10-Year Expected Volatility
U.S. Stocks (large cap)	6.5 %	17.0 %
Intl. Developed Stocks	7.1	20.0
Emerging Mkt Stocks	8.1	30.0
Global Stocks	6.9	18.5
Cash (Gov't)	1.8	1.0
Core Bonds (Mkt. Duration)	2.6	3.5
LT Core Bonds (gov't/credit)	3.5	9.5
TIPS	2.7	4.5
High Yield Bonds	4.5	12.0
Bank Loans	3.7	7.0
Non-U.S. Bonds (0 hedge)	1.5	10.0
Private Markets	8.8	24.0
U.S. REITs	6.1	18.5
Real Estate (Broad Market)	6.8	12.5
Commodities	4.1	17.0
Hedge Fund-of-Funds	4.8	9.0
Inflation	2.1	
Real Returns (minus Inflation)		
U.S. Stocks	4.3	
U.S. Bonds	0.5	
Cash Equivalents	-0.3	
Stocks minus Bonds	3.9	
Bonds minus Cash	0.8	

The Case for Diversification

Annual total returns for key asset classes 1995-2014.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Best	U.S. Equity 36.52%	U.S. Equity 22.42%	U.S. Equity 32.94%	U.S. Equity 26.33%	Int'l Equity 26.97%	Gov't Bonds 13.23%	Corp. Bonds 10.40%	Gov't Bonds 11.50%	Int'l Equity 40.82%	Int'l Equity 20.90%	Real Estate 20.06%	Int'l Equity 26.65%	Int'l Equity 16.65%	Gov't Bonds 12.38%	Int'l Equity 41.44%	U.S. Equity 16.38%	Real Estate 14.26%	Int'l Equity 16.83%	U.S. Equity 32.80%	U.S. Equity 13.08%	Best
	Corp. Bonds 22.24%	Hedge Funds 13.73%	Hedge Funds 14.95%	Int'l Equity 19.97%	U.S. Equity 20.27%	Real Estate 12.24%	Real Estate 7.28%	Corp. Bonds 10.52%	U.S. Equity 29.58%	Real Estate 14.48%	Int'l Equity 16.62%	Real Estate 16.59%	Real Estate 15.84%	Cash 2.05%	U.S. Equity 27.24%	Real Estate 13.11%	Gov't Bonds 9.02%	U.S. Equity 16.17%	Int'l Equity 15.29%	Real Estate 11.81%	
	Gov't Bonds 18.33%	Real Estate 10.31%	Real Estate 13.91%	Real Estate 16.24%	Hedge Funds 18.93%	Corp. Bonds 9.40%	Gov't Bonds 7.24%	Real Estate 6.74%	Hedge Funds 9.01%	U.S. Equity 11.78%	U.S. Equity 5.65%	U.S. Equity 15.34%	Gov't Bonds 8.67%	Infla-tion 0.10%	Corp. Bonds 16.05%	Int'l Equity 11.15%	Corp. Bonds 8.35%	Real Estate 10.54%	Real Estate 10.99%	Corp. Bonds 7.53%	
	Hedge Funds 13.06%	Int'l Equity 6.05%	Corp. Bonds 10.23%	Gov't Bonds 9.85%	Real Estate 11.36%	Cash 6.16%	Cash 4.43%	Hedge Funds 3.57%	Real Estate 8.99%	Hedge Funds 5.83%	Hedge Funds 5.13%	Hedge Funds 9.21%	Hedge Funds 7.68%	Corp. Bonds -3.07%	Hedge Funds 9.65%	Corp. Bonds 8.46%	Infla-tion 2.96%	Corp. Bonds 9.37%	Hedge Funds 7.69%	Gov't Bonds 4.92%	
	Int'l Equity 11.22%	Cash 5.30%	Gov't Bonds 9.58%	Corp. Bonds 8.59%	Cash 4.83%	Hedge Funds 5.77%	Hedge Funds 3.11%	Infla-tion 2.39%	Corp. Bonds 7.69%	Corp. Bonds 5.25%	Infla-tion 3.42%	Cash 4.81%	U.S. Equity 5.47%	Real Estate -6.46%	Infla-tion 2.72%	Gov't Bonds 5.52%	U.S. Equity 1.75%	Hedge Funds 4.06%	Infla-tion 1.49%	Hedge Funds 3.41%	
	Real Estate 7.54%	Infla-tion 3.33%	Cash 5.35%	Cash 5.24%	Infla-tion 2.68%	Infla-tion 3.39%	Infla-tion 1.55%	Cash 1.79%	Gov't Bonds 2.36%	Gov't Bonds 3.48%	Cash 3.06%	Corp. Bonds 4.27%	Corp. Bonds 5.10%	Hedge Funds -19.86%	Cash 0.19%	Hedge Funds 5.07%	Cash 0.10%	Gov't Bonds 2.02%	Cash 0.07%	Infla-tion 0.66%	
	Cash 6.04%	Corp. Bonds 3.28%	Int'l Equity 1.77%	Infla-tion 1.60%	Corp. Bonds -1.94%	U.S. Equity -6.98%	U.S. Equity -10.64%	Int'l Equity -14.95%	Infla-tion 1.88%	Infla-tion 3.25%	Gov't Bonds 2.65%	Gov't Bonds 3.46%	Cash 5.03%	U.S. Equity -36.72%	Gov't Bonds -2.19%	Infla-tion 1.50%	Hedge Funds -3.55%	Infla-tion 1.70%	Corp. Bonds -2.01%	Cash 0.04%	
Worst	Infla-tion 2.54%	Gov't Bonds 2.77%	Infla-tion 1.70%	Hedge Funds -1.61%	Gov't Bonds -2.25%	Int'l Equity -15.31%	Int'l Equity -19.74%	U.S. Equity -21.30%	Cash 1.16%	Cash 1.33%	Corp. Bonds 1.95%	Infla-tion 2.55%	Infla-tion 4.06%	Int'l Equity -45.52%	Real Estate -16.86%	Cash 0.13%	Int'l Equity -13.71%	Cash 0.11%	Gov't Bonds -2.60%	Int'l Equity -3.87%	Worst
	Return Risk		Infl. 2.29% 1.16%		Cash 2.84% 0.67%		Hedge 5.43% 7.01%		Int'l. 5.66% 20.22%		Govt. 5.86% 4.15%		Corp. 6.90% 5.17%		R.E. 9.61% 8.42%		US Eq. 10.10% 15.24%			Return Risk	

Annualized Returns 1995 - 2014

- Hedge Funds are represented by the HFRI FOF Conservative Index
- Inflation is represented by the U.S. Consumer Price Index
- International Equity is represented by the MSCI EAFE Index
2000 Forward - Int'l Equity is represented MSCI - AC World EX-USA Index
- Cash is represented by 30-day T-Bills
- U.S. Equity is represented by the S&P 1500
- Real Estate is represented by the NPI
- Corporate Bonds are represented by the Barclays Capital - Credit Index
- Government Bonds are represented by the Barclays Capital U.S. Government

Portfolio Objectives

NRTF's Investment Strategy Outline:

- ***Liquidity:*** *Ensure the availability of funds when needed to meet the immediate and/or future operating requirements of the NRTF*
- ***Return:*** *The portfolio will be managed in a manner to best meet the long-term income needs of the NRTF*
- ***Safety:*** *The fund will seek to contain the risks of principal loss*

Proposed Asset Allocation

Goal: Improve return of NRTF's portfolio while observing the stated objectives:

- **Liquidity** - sufficient to meet Trust's commitments
  - Current project commitments
  - Future operating requirements of $80 million over next 3 years
- **Return -** generate sufficient income to meet future commitments of the Trust
- **Safety -** limit the risk of a drop in asset value below $500 million

The following pages contain portfolio changes consistent with these goals.

Liquidity

- Current project commitments - estimated to be around $75 million
  - Recommendation - invest in laddered portfolio of government related bonds to meet commitments for next 4-5 years
- Future operating requirements - estimated at $80 million over the next 3 years
  - Recommendation- invest in laddered portfolio of government related bonds with maturities scheduled to meet the cash flow needs over next 3 years

Return

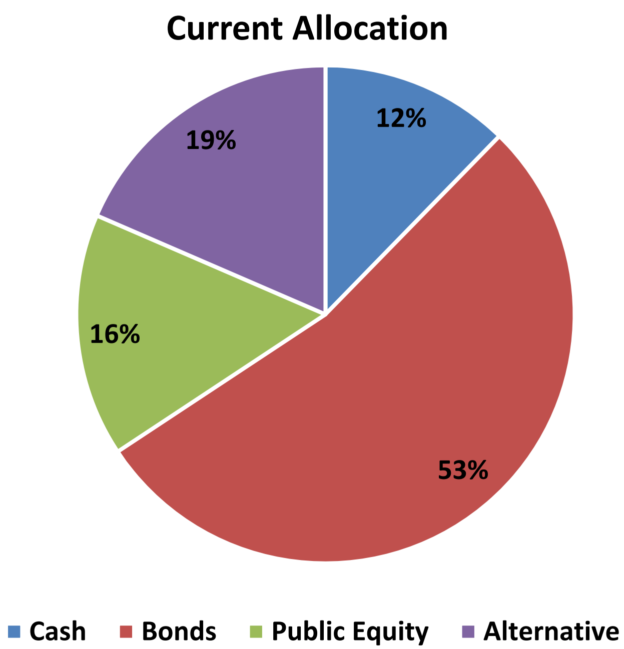
Additional asset classes will add return and increase diversification

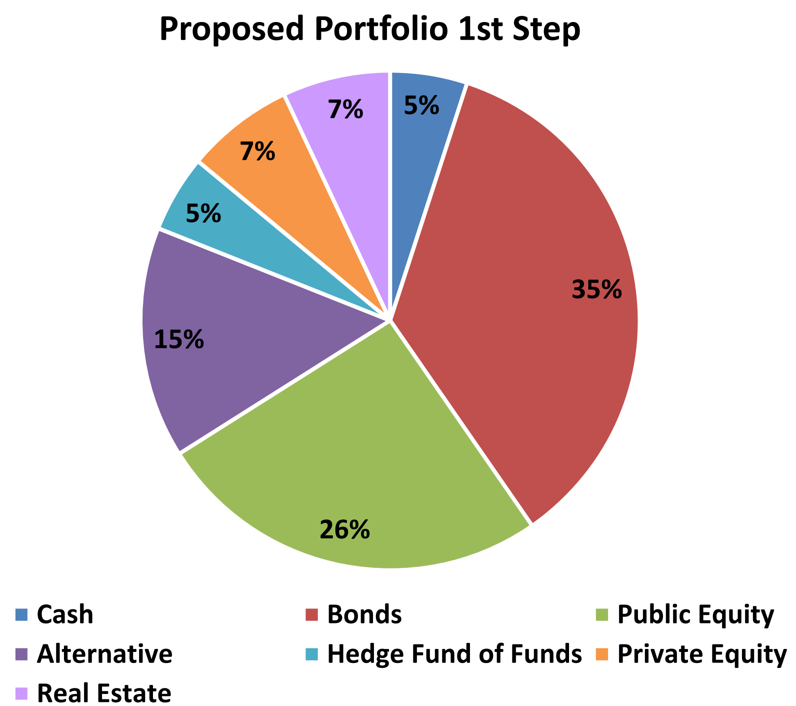
- **High yield bonds** - add return
- **Hedge Fund-of-Funds** - increase diversification
- **Alternative investments** - add return (primarily credit related investments with current yield)
- **Private Equity (PE)** - add return (activist public equity managers with PE return expectations or PE secondary's)

Proposed Portfolio: 1st Step

Improve returns of existing portfolio while providing funding for current and future project commitments.

- The current allocation has an expected return of 4.5% with risk of 7.0%.
- The proposed 1st Step asset allocation will allocate a portion of bonds to current project commitments and future operating requirements of $80 million over next 3 years. The expected return is 5.7% with 9.0% risk.

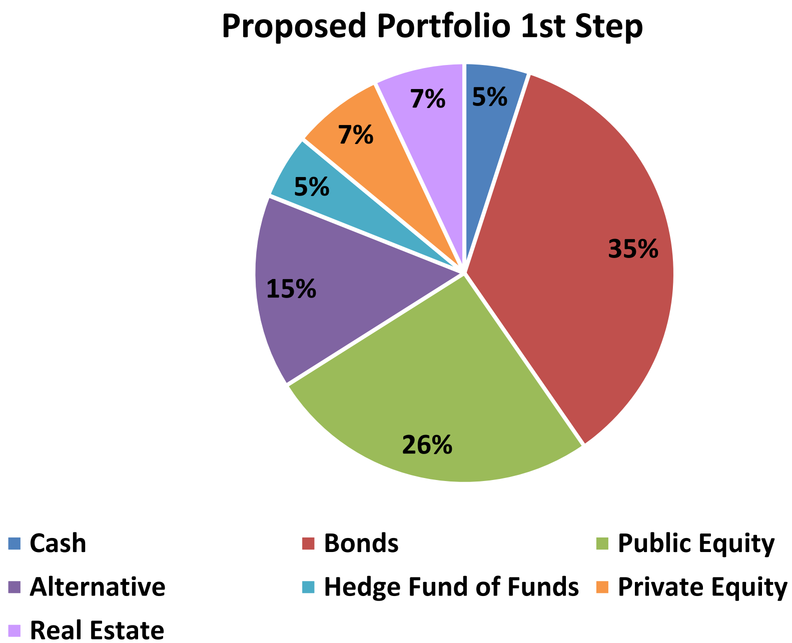


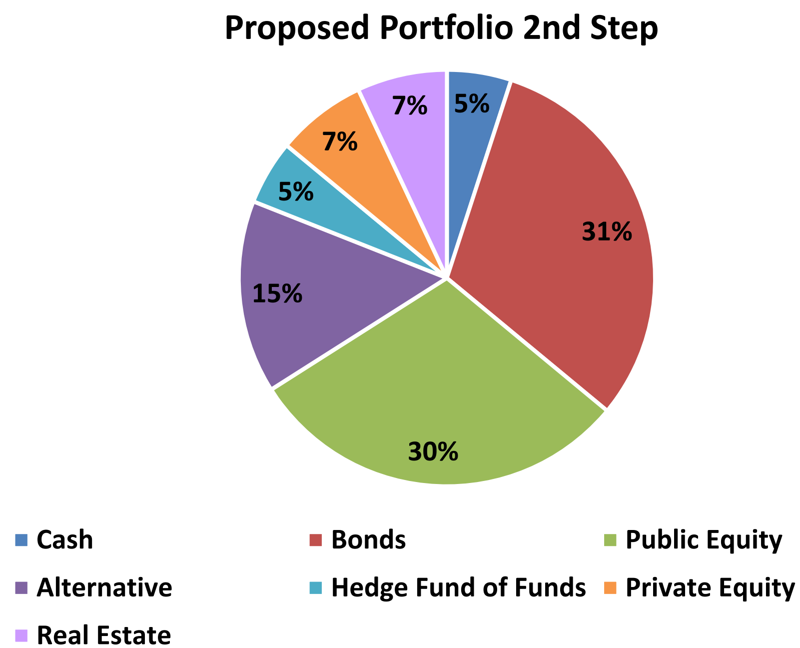


Proposed Portfolio: 2nd Step

Improve returns of proposed portfolio 1 by increasing allocation to public equity and high yield and trimming exposure to government related bonds.

- The Proposed Portfolio 2nd Step will have an expected return of 6.0% with risk of 10.2%.
- Much of the reallocation to Portfolio 2 will occur over the next 3 years as the $80 million government bond investments for future operating requirements roll off.





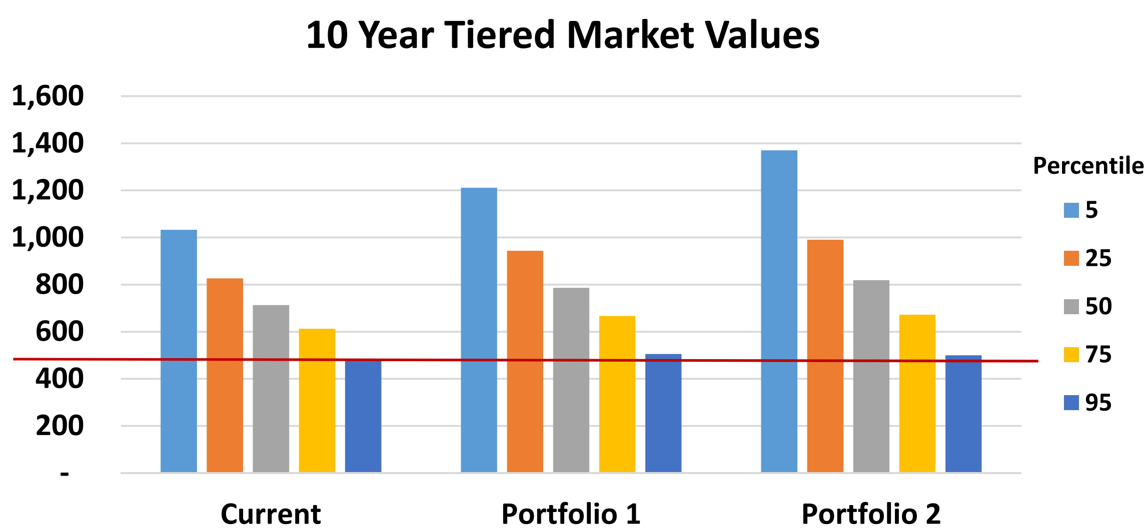
Portfolio Allocation

Moving from the target portfolio, we have increased our expected return with a slight increase to risk with Portfolio 1.

	Target	Current	Portfolio 1	Portfolio 2
Cash	5%	12%	5%	5%
Public Equity	20	16	26	30
Bonds	65	53	35	31
Alternatives	9	17	15	15
Hedge Fund of Funds	-	-	5	5
Real Estate	-	-	7	7
Private Equity	1	1	7	7
Return	4.7	4.5	5.7	6.0
Risk	8.2	7.0	9.0	10.2
Return per unit of Risk	0.6	0.6	0.6	0.6

Maintain $500 million Portfolio Value

Probability distribution of 1000 random samples provides a 95% probability of being at or above $500 million in Portfolio 1.



	Current	Portfolio 1	Portfolio 2
Min =	$ 309	$ 329	307
Max =	$ 1,743	$ 1,902	2,407
Avg =	$ 731	$ 818	857
Median =	$ 713	$ 787	819
Std. Dev. =	$ 171	$ 223	270

* Assumes a 2.5% spend rate with an $80 million outflow over 3 years

Conclusion

Action to be taken over the next six months:

Build Portfolio 1

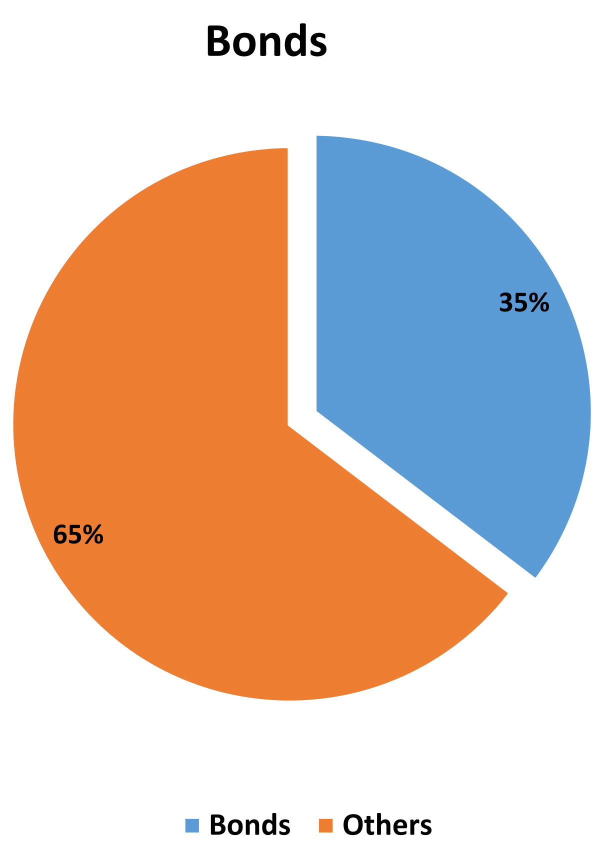
- Build laddered portfolio of safe, government bonds to fund:
  - Current NRTF project commitments
  - Future operating requirements of $80 million
- Research and meet with managers across new asset classes:
  - High Yield
  - Hedge fund-of-funds
  - Alternatives
  - Private equity

Build Portfolio 2

- Over 3 years, fund future requirements and reallocate assets to Portfolio 2

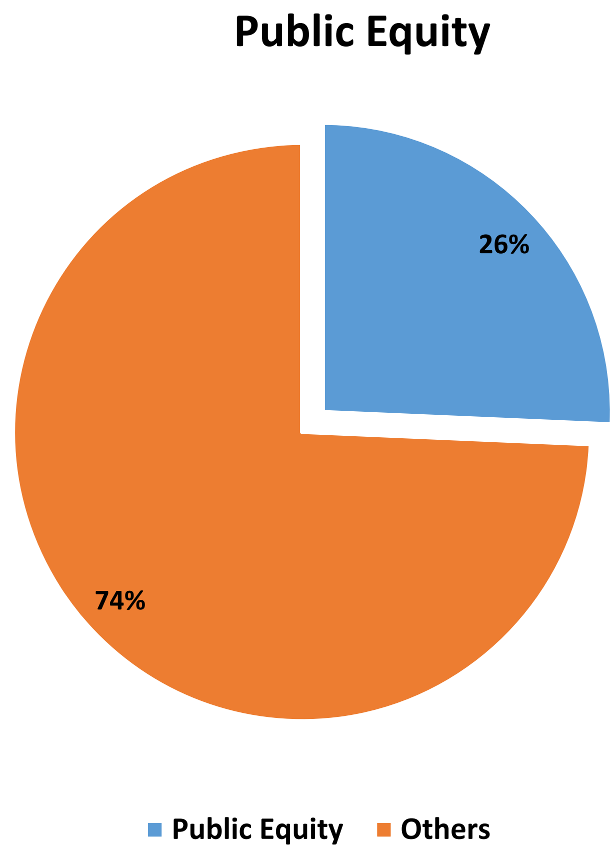
Appendix

Bonds



- The current allocation to bonds provides liquidity and safety of principal.
- Build laddered portfolio of bonds to fund current commitments of NRTF.
- Build another laddered portfolio of bonds to fund $80 million over 3 years.
- Invest in High Yield bonds with higher return. Volatility will be higher than existing bonds, but much lower than public equity.

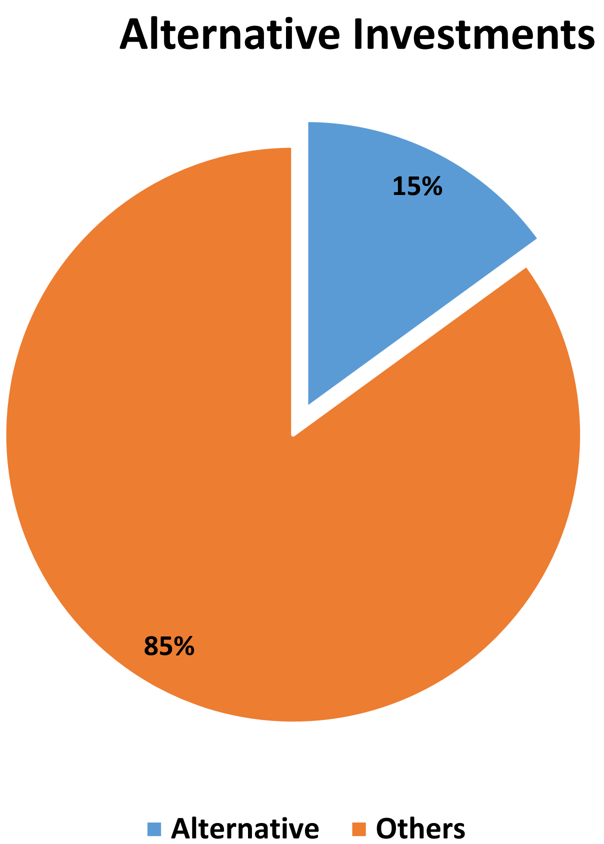
Public Equity



- Public equity investments will increase in Portfolio 1 and 2.

- Plan to improve the diversification and long-term expected return by moving the equity allocation to a global profile.
  - Current Portfolio: 80% U.S. / 20% International
    - Estimated return- 6.6%
  - Proposed: 50% U.S. / 50% International
    - Estimated return- 6.9%

Alternative Investments



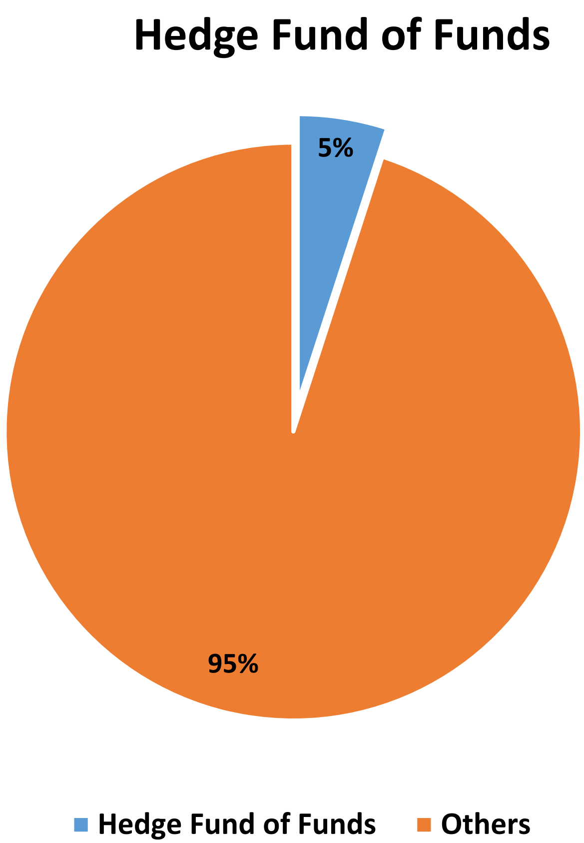
- Alternative investments would be considered if they offer either a high current yield or higher long-term expected return relative to public equity and bonds.

- High current yield ranging from 4-7%.

- Less liquidity than stocks and bonds, but part of a higher return is compensation for this illiquidity.

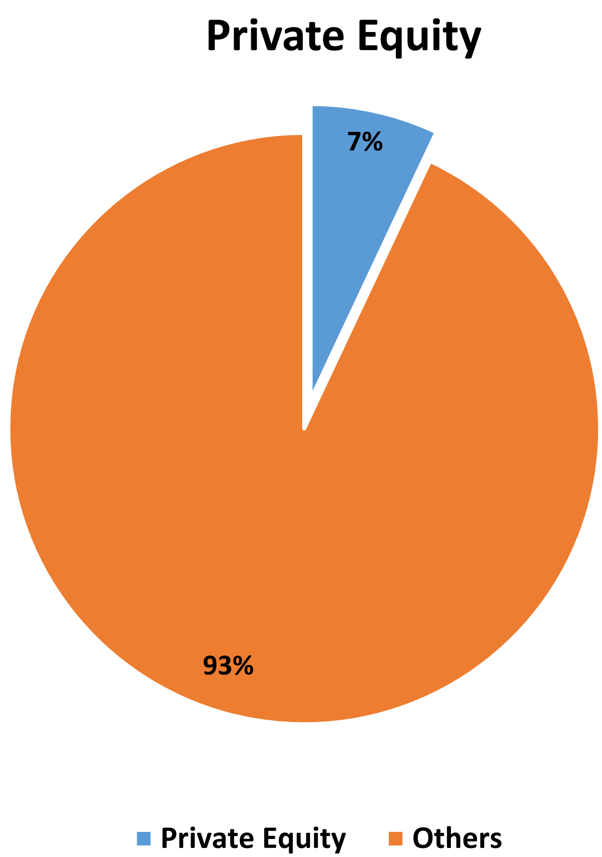
- Investments in this category include real estate, operating leases, direct lending, mezzanine finance and asset backed securities.

Hedge Fund of Funds



- Hedge Fund of Funds are expected to benefit the portfolio by:
    - Generating higher returns than bonds
    - Low correlation to public equity returns
    - Attractive risk/return (Sharpe) ratios
- Through investments in hedge fund of funds, NRTF can gain the benefit of well-known active investment management approaches.

Private Equity

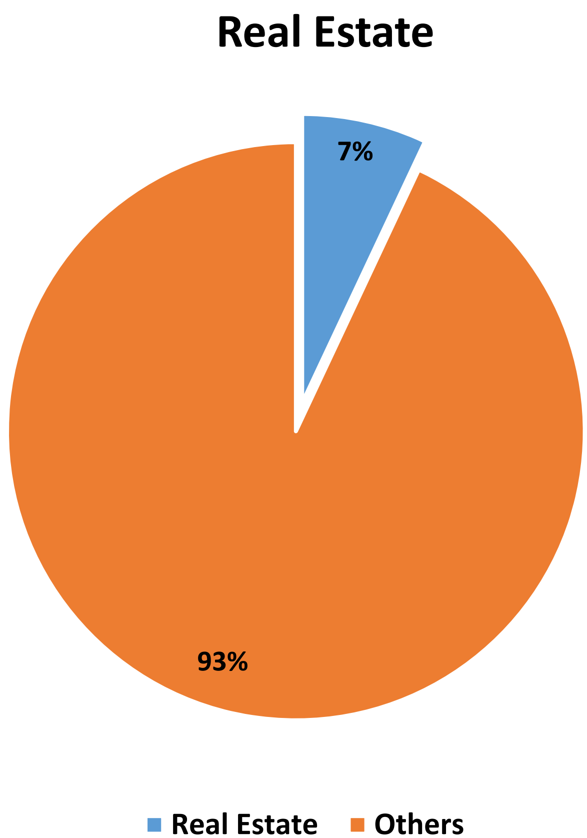


- Private equity can have a commitment of 10 years or more, which is too illiquid for NRTF's investment period.

- Consider investments with similar return characteristics to private equity:

  - Activist Investors
  - Private Equity secondary's

Real Estate



- Real Estate can provide both current return and growth through appreciation.
- Investments may be done through public markets (REITs) or private deals which may lock up assets for 3-5 years.