

NWAB Mtg Packet

Budget, Audit and Finance Retreat

July 26, 2023

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Northwest Arctic Borough

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www.nwabor.org

Northwest Arctic Borough Assembly Finance Retreat July 26-27, 2023 – Anchorage, Alaska Dimond Center Hotel

AGENDA

Wednesday, July 26, 2023

- | | |
|----------|--|
| 8:30AM | Breakfast provided |
| 9AM | Call to Order
Prayer
Introductions

Approve retreat agenda |
| 9:30 AM | Jonathan King – Halcyon Consulting: Long-Term PILT Revenue Forecast |
| 10:30 AM | 15-Minute Break |
| 12 PM | Lunch Provided – Working Lunch |
| 1:30 PM | Long-term revenue and budget discussion continued |
| 3:00 PM | Identification of long-term service priorities |
| 4:30 PM | End Day 1 |



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Thursday, July 27, 2023

- 8:30 AM Breakfast provided
- 9:00 AM Call to Order
- 9:30 AM APCM – Blake Phillips
- 10:30 AM 15-Minute Break
- 12 PM Lunch provided – working lunch
Wendy Chamberlain – State budget forecast
- 1:30 PM Long-term budget planning
- 3:00 PM Recap of immediate and long-term budget plan and action items
- 4:30 PM End Day 2

May 30, 2023

Dickie Moto
 Mayor
 Northwest Arctic Borough
 163 Lagoon Street
 Kotzebue, AK 99752

Dear Mayor Moto:

As you requested, I have prepared this review and estimate of the Northwest Arctic Borough (NAB) future revenues generated under the existing Payment in Lieu of Taxes (PILT) agreement with Teck Alaska. In preparing this analysis, I reviewed Teck Alaska's parent company's (Teck, Inc.) quarterly and annual reports, and reached out to Teck Alaska itself for their view on factors which could affect future payments. After completing this process, I conclude the following barring any force majeure events or sudden changes in Teck's investment patterns:

- NAB should expect annual Village Improvement Fund (VIF) revenues to remain at or near the upper end of the negotiated range (\$8m) with an increased chance of lower payments (\$4m) toward the end of the negotiated agreement.
- General fund (GF) revenues from the PILT agreement in calendar year (CY) 2023 and 2024 will be similar to those of CY 2022, but less than those of CY 2021 (see Table 1).
- GF revenues from the PILT agreement will be noticeably smaller in CY 2025. This payment is likely to be between \$23 million and \$25 million.
- If the current PILT structure was extended to cover CY 2026-2030, I expect GF payments to fall to ~\$20 million in 2027, to around \$10 million in 2029, and potentially at or below \$5 million in 2030 or 2031.

Table 1. Forecast Net LBE and PILT Payments, 2016-2030 (\$ Millions)

Category	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Actual PILT	14	15	19	22	28	29	27								
Forecast PILT								~27	~27	~25					
Potential PILT											~22	~20	~15	~11	~5

Source: Teck Alaska, 2023 and Halcyon Consulting, Inc. estimates

I discuss these topics in greater detail below, but I believe that now is the time for NAB to be vigorously pursuing a sustainable budget including saving as much revenue as possible, resizing services to meet future revenues, and discussing the local taxes and revenues that will be needed to support a sustainable budget even before a mine shutdown or suspension.

HISTORIC RDM INDICATORS AND THE VIF PAYMENT FORECAST

Over the last six fiscal years, the Red Dog Mine has annually produced an average of 537,000 tonnes zinc in concentrate, \$CA 1.67 billion in gross revenue, and \$CA 0.89 billion in gross profit before depreciation and amortization (see Table 2).

Table 2. Red Dog Results 2017-2022 and Future Estimates

Year	Zinc in Concentrate (000s Tonnes)	Red Dog Revenues (\$M CA)	Gross Profit (\$M CA)	
			Before Depreciation & Amortization	After Depreciation & Amortization
2016	583	\$1,444	\$749	\$668
2017	542	\$1,752	\$971	\$874
2018	583	\$1,696	\$990	\$864
2019	553	\$1,594	\$837	\$696
2020	491	\$1,394	\$717	\$513
2021	503	\$1,567	\$822	\$678
2022	553	\$2,111	1,060	862
Five-Year Average	537	\$1,672	\$885	\$722
2023 (Est)	550-580			
2024-2026 (Guidance)	500-550			

Source: Teck Annual Reports 2016-2022

These fiscal results drive the VIF component of the annual PILT payment. Each year since the signing of the current Memorandum of Commitment (MOC) agreement, Teck's VIF payment to NAB reached the maximum of \$8 million per year. I expect that trend of maximum payments to continue in 2023 based on Teck's 2022 reported results, estimates of zinc concentrate production in 2022, and the current price of zinc. Zinc prices are currently at their lowest point since 2020, but on par with the highest prices seen between 2010 and 2015. Market conditions for zinc could be viewed as "balanced" as we approach the 2023 shipping and sales seasons. In the medium term, I expect zinc production to remain consistent through the life of the PILT agreement based on Teck's published estimate of zinc production for 2023-2026. The company estimates annual production between 500,000 and 550,000 tonnes. While the lower end of this range would be 7 percent below the 5-year average, the midpoint of the estimate is only 2 percent below the 2016-2021 production average. If production meets estimates and zinc prices remain strong (always an unknown), VIF payments will remain robust and at or near the maximum of the negotiated range.

Should the PILT agreement be extended, we would expect VIF payments to approach the \$4 million floor as we approach the suspension of activity at the mine.

GENERAL FUND REVENUES

Summary

The analysis shows that GF PILT revenues should be roughly stable in 2023 and 2024 before declining modestly in 2025. If the parties extend the current PILT agreement via the agreed upon five-year extension, the analysis expects greater percentage declines in each subsequent year with potential revenue falling from just over \$20 million in 2026 to roughly \$5 million in 2030. The following section explores these results in greater detail.

Table 3. Historic and Forecast Net LBE and PILT Payments, 2016-2030

Category	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Actual Net LBE	383	387	482	571	711	717	671								
Forecast Nt. LBE								670	670	630	570	490	380	260	120
Actual PILT	14	15	19	22	28	29	27								
Forecast PILT								~27	~27	~25					
Potential PILT											~23	~20	~15	~11	~5

Background

GF payments are driven by two key elements contained in the 2017 PILT agreement:

- The assessment rate, which started at 3.75 percent at the beginning of the agreement and currently sits at the contractual maximum of 4.0 percent.
 - The accumulated value of the land, buildings, and equipment (LBE) located at Red Dog minus the accumulated depreciation (see below).
- (b) On or before June 1, 2017, and each subsequent June 1 during the term of this Agreement, Teck shall pay to NAB an amount equal to: (i) the value of all fixed assets of the Red Dog Mine, as determined in accordance with Generally Accepted Accounting Principles of the United States of America and reflected in Teck's audited financial statements for the preceding fiscal year and reported as *Land, buildings, and equipment – at cost, less: accumulated depreciation*, multiplied by (ii) the percentage opposite the payment year set forth below (and reduced by the amount of the half-year pro rata estimated payment made below):

Both the accumulated LBE minus depreciation value (net LBE) and the assessment rate have hit their peak values, and the net LBE value is expected to fall in coming years. Thus, future PILT revenues will fall, and the maximum payment value is already in the past.

It's important to understand how the accumulated LBE value and depreciation work together to create net LBE. When Teck invests in the mine, it adds the value of that investment to the accumulated LBE number (i.e., the sum of all prior investment). For example, a new bulldozer might cost Teck \$1 million. When Teck purchases that equipment it adds that \$1M to the accumulated LBE value. It then depreciates the value of that equipment according to the schedule laid out in its annual reports (see below)

Property, Plant and Equipment

Land, buildings, plant and equipment

Land is recorded at cost and buildings, plant and equipment are recorded at cost less accumulated depreciation and impairment losses. Cost includes the purchase price and the directly attributable costs to bring the assets to the location and condition necessary for them to be capable of operating in the manner intended by management.

Depreciation of mobile equipment, buildings used for production and plant and processing equipment at our mining operations is calculated on a units-of-production basis. Depreciation of buildings not used for production and of plant and equipment at our smelting operations is calculated on a straight-line basis over the assets' estimated useful lives. Where components of an asset have different useful lives, depreciation is calculated on each component separately. Depreciation commences when an asset is ready for its intended use. Estimates of remaining useful lives and residual values are reviewed annually. Changes in estimates are accounted for prospectively.

The expected useful lives of assets depreciated on a straight-line basis are as follows:

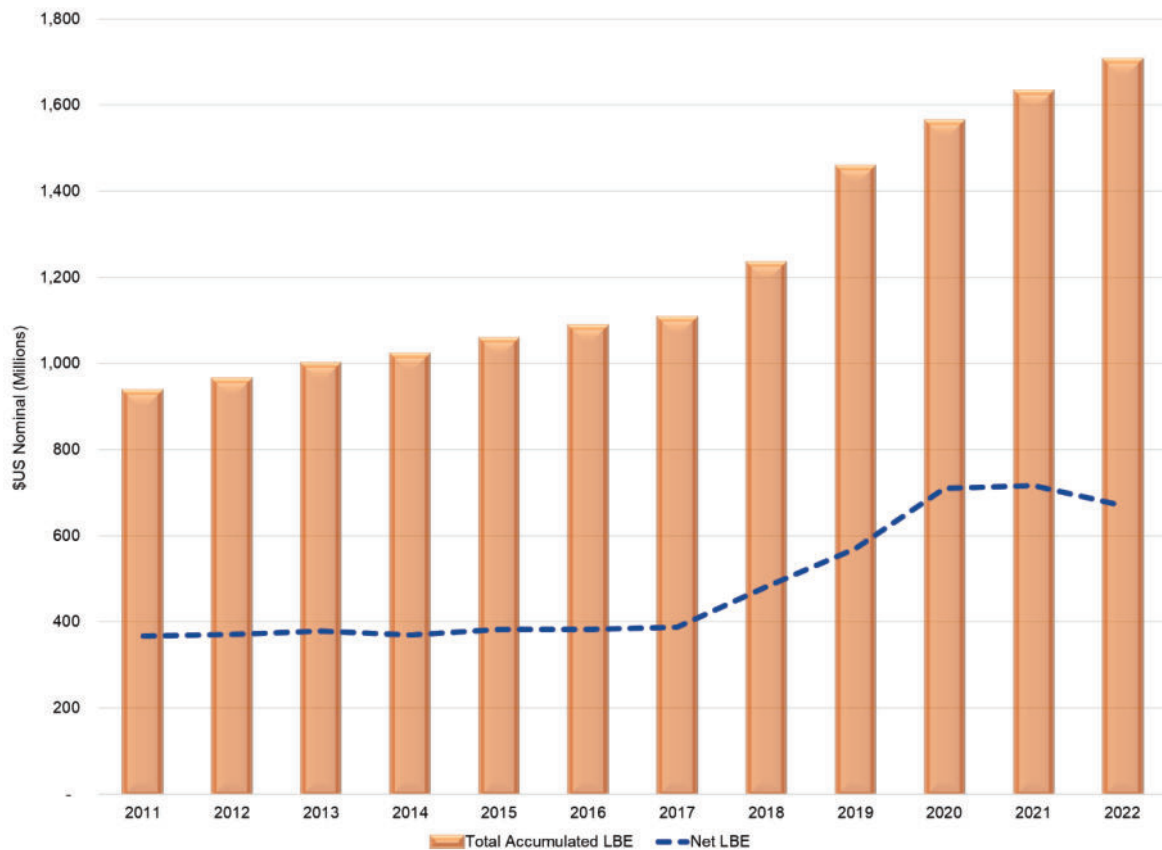
- Buildings and equipment (not used for production) 1–43 years
- Plant and equipment (smelting operations) 3–30 years

As an example, a piece of heavy machinery like a bulldozer might be expected to have a five-to-seven-year lifespan. Teck would depreciate (deduct) the value of the equipment from accumulated LBE according to this expected lifespan to create net LBE. So, in the case of a five-year lifespan and a \$1 million piece of equipment, depreciation is going to reduce net LBE by \$200,000 each year in the five years after the purchase.

Current Conditions

The current total accumulated value of LBE at Red Dog is just over \$1.7 billion (see Figure 1), but the net LBE, which is the amount used to calculate the PILT payment is just over \$670 million. Historically, the net LBE figure was less than \$400 million, with the company investing roughly \$30 million a year into accumulated LBE and annual depreciations that amount, or slightly less than that amount, off the books. Between 2018 and 2020 Teck invested more than \$455 million into the mine's accumulated LBE; an average of \$152 million per year or 500 percent of the historical annual investment rate. The current rate of investment, while still elevated, is not enough to overcome the effect of the increased depreciation resulting from past investment, and net LBE is beginning to fall. After peaking at roughly \$717 million in 2021, net LBE in 2022 declined \$58 million to \$671 million.

Figure 1. Total Accumulated Land, Buildings, and Equipment (LBE) and Net LBE, 2011-2022



Source: Teck Alaska, 2023.

Unless Teck makes the decision to substantially increase investment in the mine, the net LBE which drives PILT revenues will fall.¹ All signs currently point to Teck preparing for the end-of-life of the current open cut mine in the early 2030s.² Based on Teck's statements, I expect net LBE to fall rapidly in the late 2020s. Much of this decline will occur after the life of the current PILT agreement but has significant implications for the future revenue potential of any future PILT agreement covering 2026-2030 which uses the current agreement's structure.

Historical PILT GF Payments and Future Revenue Projections

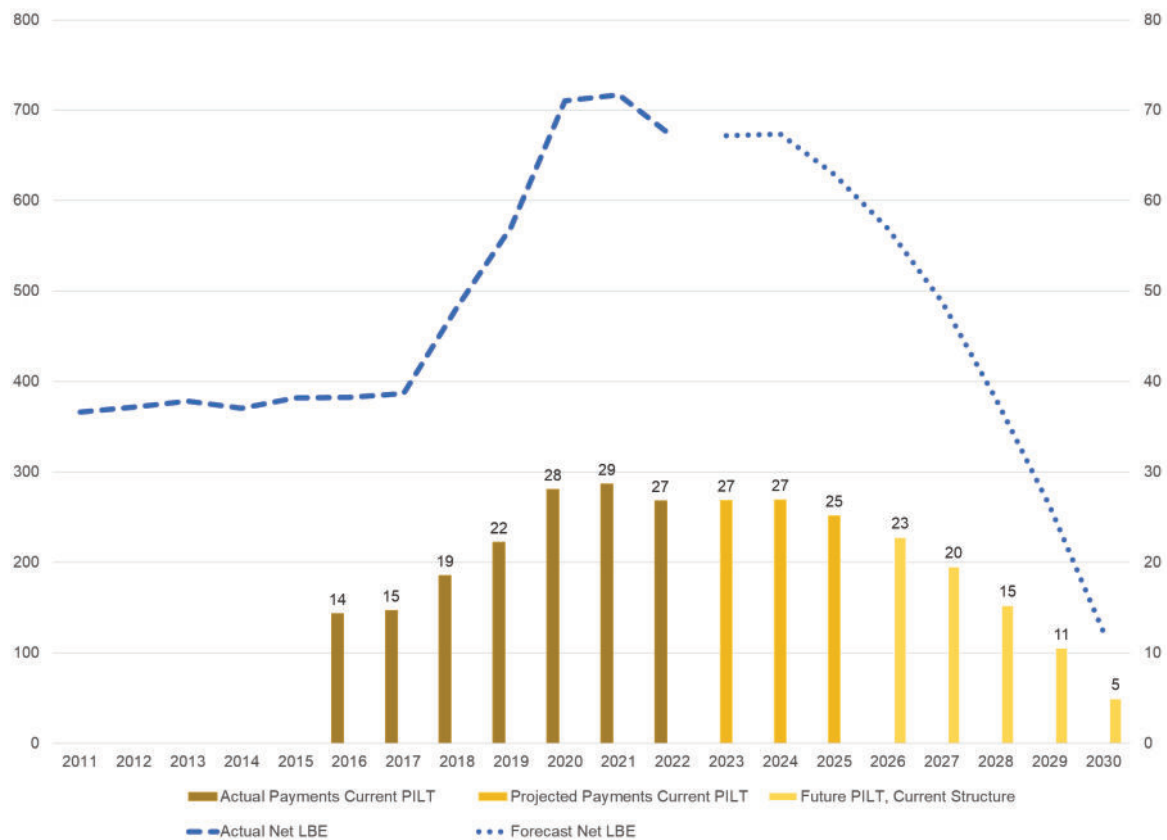
The first years of the current PILT agreement generated \$14-15 million annually; these amounts reflected an assessment rate of 3.75-3.80 percent and a net LBE value of just under \$400 million. In 2018 Teck entered the previously mentioned three-year period of substantial annual

¹ It is worth noting that Teck's investments exploring and developing ore bodies on state land do not count towards net LBE under the current PILT as they occur outside the boundaries of the current RDM property.

² Please the Q4 2022 Financial Report Conference Call Transcripts at <https://www.teck.com/investors/financial-reports/quarterly-reports/2022/q4-2022-financial-report>.

investments which nearly doubled both net LBE and GF PILT payments. As noted above, that exceptional investment period is over and net LBE should fall as lower investments fail to keep pace with accelerated depreciation (see Figure 2).

Figure 2. Historical and Projected Net LBE and GF Payments



Source: Teck Alaska, 2023 and Halcyon Consulting, Inc. estimates

Communications with Teck Alaska indicate that net LBE will likely be largely stable for the next two years and then fall rapidly starting around 2025/2026. Future GF PILT payments to NAB will directly follow the net LBE values as there will be no change in the four percent assessment rate during the remainder of the PILT agreement. I expect PILT payments between \$26 million and \$27 million this year (2023) and next year. In CY 2025 I expect PILT payments to fall by 5-10 percent to around \$25 million. The final payment of the agreement, which will occur in CY 2026, is likely to be roughly 10-20 percent smaller than the CY 2025 payment and total between \$20 million and \$23 million.

The Borough does not have an agreement that would cover payments in CY 2026-2030. However, if the current agreement were extended by agreement of both parties to cover that period, I would expect GF PILT payments to fall below \$20 million in 2027 and decline by roughly \$5 million each year thereafter until they hit a likely stable value of \$5 million a year. The only thing that will

prevent this decline is a decision by Teck to invest tens of millions of dollars per year. For example, we know that once net LBE returns to a value of roughly \$350 million the company needs to invest \$30 million to \$40 million per year to maintain that net LBE. This net LBE amount would generate \$14 million annually for NAB under current PILT terms. However, Teck is currently not indicating that their investment pace, or the value of the underlying mineral assets, will sustain that level of net LBE. In 2019, Teck surprised the borough with significant investments in the mine which raised the expected value of the PILT by more than \$50 million in additional revenue for NAB.³ I do not believe it is prudent to expect the same event twice, but we can be happily surprised together if it happens.

Additional Questions and Thoughts

On May 22, 2023, we received additional questions from NAB. These questions are largely outside the scope of this analysis which is limited to the question of PILT-related revenues through the end of that agreement. However, we address these questions in limited scope below.

What is the economic future after 2031?

Mine exploration, design, permitting, and development take place over decades. There are too many variables to accurately predict the economic future with any degree of reasonable certainty nearly a decade away. That said, we can envision several potential scenarios for NAB, all of which the Borough should put some level of consideration and planning towards. Please note that all these scenarios will take place after a likely 80+/- percent decline in revenues presuming the extension of the current PILT.

Effectively No Significant Future Mining-Related Revenues

Scenario: RDM shuts down in the early 2030s and the development of an underground mine near the current mine and/or significant mining activity in Ambler is delayed for years or decades.

Preparation: The Borough should save as much as it can while it has a steady revenue stream. It should identify the size of sustainable budget based on the three-legged stool of “endowment revenues,” locally based taxes, and revenues from either a PILT or property taxation including RDM properties.

Likelihood: There is significant risk (>30% chance) of this scenario occurring. While Teck is bullish on the potential of an underground mine⁴, we must remember that mining companies play a very long game, and that multi-decade delay would not be unheard of in the industry. At the

³ The VIP2 project at RDM has been incredibly successful for both Teck and the NAB. During the Q2 2022 conference call Teck President and CEO Donald Lindsay stated “*The VIP2 project at Red Dog, which meant that instead of the production dropping from 550,000 tonnes to something starting with a three, it stayed over 500,000. So it was like building a whole new zinc mine.*”. Please the Q2 2022 Financial Report Conference Call Transcripts at <https://www.teck.com/investors/financial-reports/quarterly-reports/2022/q2-2022-financial-report>

⁴ Please the Q4 2022 Financial Report Conference Call Transcripts at <https://www.teck.com/investors/financial-reports/quarterly-reports/2022/q4-2022-financial-report>.

same time, no property in Ambler is far enough along in the development process to be considered “reasonably foreseeable”. While there is significant exploration activity in Ambler, none of the current prospects are the size of RDM. Current estimates for all known prospects indicate both significantly shorter mine lives and less annual revenue than RDM. Moreover, it took RDM decades to generate the revenue it now generates.

Significant Interruption in Mining-Related Revenues

Scenario: RDM’s open-pit mining shuts down in the early 2030s and activity at RDM is largely suspended. Underground mining on state lands follows a delay of several years but with less than a decade of interruption.

Preparation: As above, the Borough should save as much as it can while it has a steady revenue stream and it should identify the size of sustainable budget based on the three-legged stool of “endowment revenues,” locally based taxes, and revenues from either a PILT or property taxation including RDM properties.

Likelihood: I consider this scenario the most likely one (>40% chance). While the exploration, permitting, and development of an underground mine at RDM is ongoing, NAB is going to have a hard time telling if it’s in this scenario or the prior scenario. All it takes is one lawsuit and we go from this scenario to a very significant delay. In short, the former scenario and this scenario could look a lot alike until they separate with very little warning.

Limited to No Interruption in Mining-Related Revenues

Scenario: RDM’s open-pit mining shuts down in the early 2030s and mining on state lands using the current RDM mill occurs within a very short period (<2 years) after the open pit closes.

Preparation: We do not know what revenues will be generated from the underground mine. At a minimum, NAB needs to prepare for a multi-year decline in revenues from a PILT extension (or other taxation mechanism). Thus, preparing for this scenario looks a lot like preparing for the other scenarios.

Likelihood: We see this scenario as the least likely scenario listed here given Teck’s signals about the potential for a suspending activity. As noted above, Teck is publicly bullish on the underground mine and its Zinc unit, but the risks presuming this scenario and ignoring the implications of the other scenarios are extraordinary.

How much will revenue drop once RDM goes underground?

We believe the best response to this question is:

1. Revenues are likely to drop substantially well before RDM goes to underground extraction (So pay attention to the current issue before getting wrapped around a mine which doesn’t exist).

2. There's no guarantee RDM will expand underground. (See the prior note.)
3. If the mine goes shift to underground extraction your revenues will depend on:
 - a. Mine economics (unknown currently)
 - b. NAB's skill at negotiating future agreements/potential litigation risk of Teck challenging the Borough's ability to mining on State land;
 - c. NAB's willingness to utilize its constitutionally-endowed power of taxation.

Will the report consider other sources of revenue?

Other sources of revenue are outside our currently contracted scope of work. We remind NAB that we have performed several analyses on the potential of non-PILT revenue sources over the past 15 years. These analyses should be in the Borough records. If not, the Borough can request copies from Northern Economics, Inc. We recommend reviewing them.

Specific to the Ambler Mining District: No properties in the Ambler Mining District meet the conditions required to be seen as "reasonably foreseeable." Given the challenges and vagaries of mine development, we would not speculate on future mining revenues from the AMD and we believe that any such revenues are likely more than a decade away (at a minimum).

Do we have any recommendations on how NAB can restructure the organization in anticipation of our revenue future?

We have consistently advised the Borough that the most prudent course of action is to engage in long-term fiscal planning under the assumption that this PILT agreement represents the foreseeable highwater mark for revenues. We continue to urge? to that advisement.

RDM PILT revenues constitute 80 percent of planned-for revenues under the FY 2024 budget and 80 percent of those revenues will likely be gone by 2030. Without additional local taxation and without drawing from Sustainability Fund revenues, NAB could be looking at the equivalent of a \$10 million budget in today's dollars. Our educated best guess (not a formal analysis) is that with additional local taxation and endowment revenues the Borough might be able to afford sustainable budget equivalent to \$12 million to \$18 million in today's dollars. Under the FY 2023 Amended Line-Item Budget, the budget minus investment contributions equals roughly \$25.5 million. This amount is 50 percent to 100 percent higher than our back-of-the-envelope sustainable budget. We suspect that the Borough will need to cut the equivalent of \$7 million to \$13 million from the current non-investment budget to get to a "right-size" budget should PILT or mining related revenues fall 80 percent from current levels. We recommend working with your investment advisors to understand the endowment potential of your Sustainability Fund reserves.

We do not presume to tell the Borough exactly what should be cut to "right-size" its budget. The Borough has constitutional obligations around which services it must provide. Which additional

services beyond those constitutionally mandated minimums are most important to the people of NAB is a question for elected officials and the community.

Closing

We want to thank you for the opportunity to provide this analysis. The Borough is our longest-tenured client, and we deeply appreciate our continued collaboration. If you have questions about this analysis please feel free to contact me at any time.

Warm regards,

A handwritten signature in blue ink, reading "Jonathan R. King". The signature is fluid and cursive, with the first name "Jonathan" being the most prominent part.

Jonathan King, M.S., PCC
Principal

NORTHWEST ARCTIC BOROUGH

STRATEGIC REVIEW

for the period ending May 31, 2023

Agenda

- 1. Portfolio Review*
- 2. Strategic Review*
- 3. Market Review*
- 4. Appendix*



Account Summary as of May 31, 2023

Northwest Arctic Borough

		Contingency Reserve	GF Sustainability Fund	VIF Sustainability Fund
Account Inception		August 2013	August 2017	September 2017
Total Contributions		\$ 8,639,115	\$ 43,743,730	\$ 26,189,253
Withdrawals <i>Does not include custodial or management fees</i>		\$ 3,148,311	\$ 0	\$ 450,000
Current Market Value <i>May 31, 2023</i>		\$9,115,523	\$47,591,619	\$30,615,738
Annualized Account Return* <i>Inception – May 31, 2023</i>		+ 4.48%	+ 3.92%	+ 4.04%
Strategic Asset Allocation	Risk Assets	34%	45%	45%
	Risk Control	53%	36%	36%
	Alternatives	13%	19%	19%

*Performance is gross of management fees, net of internal fund fees, and annualized for periods greater than one year.

Historical Performance and Growth

Northwest Arctic Borough – Combined Accounts

36 – 86 bps

of annualized outperformance
vs a traditional stock/bond
allocation *.

1.2% - 2.2%

of annualized, risk- adjusted
outperformance vs a
traditional stock/bond
allocation*.

\$75.4M

total contributions.

Current combined market
value of

\$87,322,880

\$450K

total withdrawals.

All accounts have earned a
return **greater** than the
rate of inflation.

Over **\$12.3M** of
earnings generated.

*Performance is gross of management fees, net of internal fund fees, and annualized. Source: Bloomberg. The Traditional Allocation represents a portfolio comprised of the ACWI World Index and Bloomberg Global Aggregate Index blended at weights that match the exposures of each account's strategic asset allocation, changed and linked when changes to the strategic asset allocation have been made. All metrics are calculated since inception.

Historical Market Value as of May 31, 2023

Northwest Arctic Borough

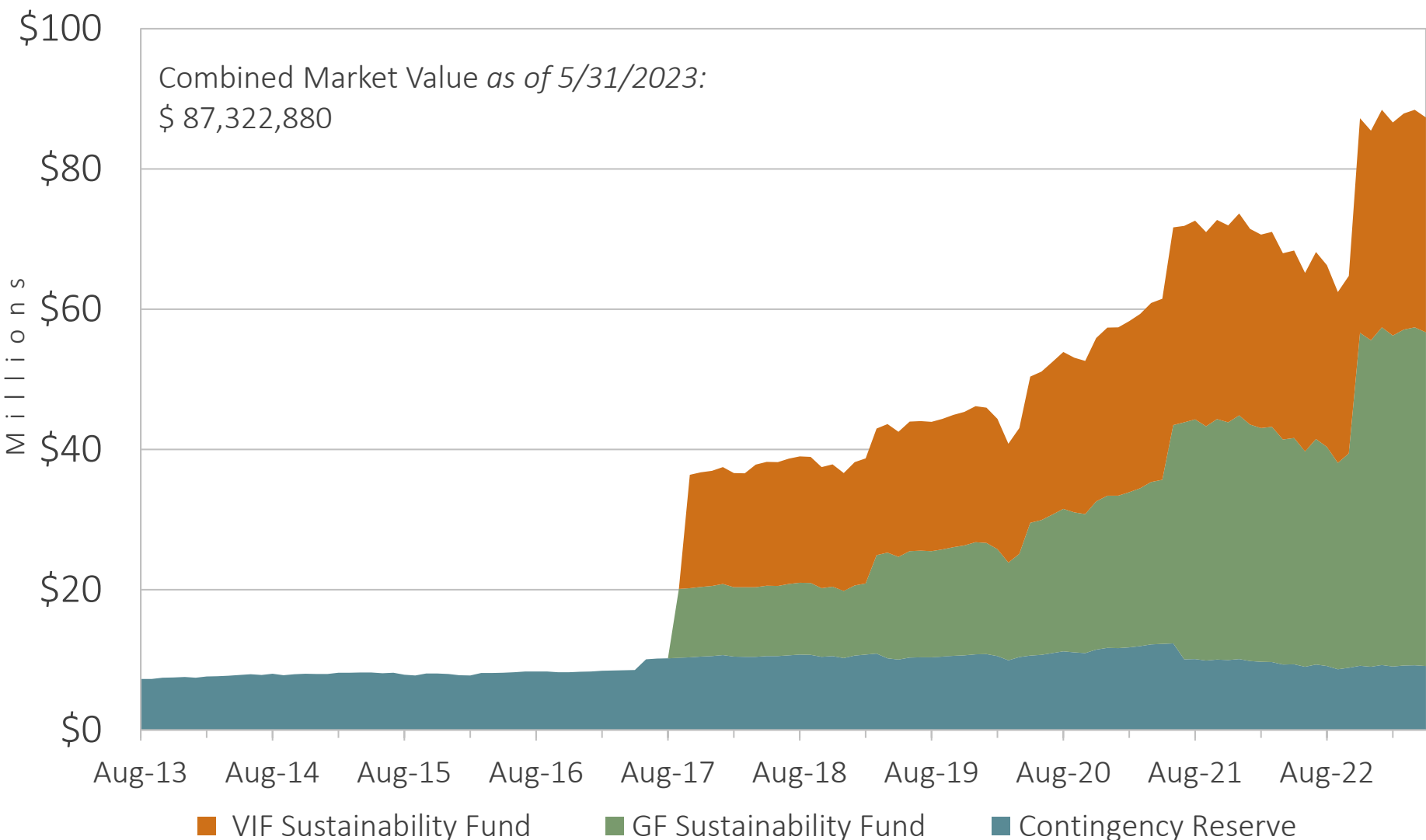


Chart shows month-end portfolio market values from August 2013 to May 2023.

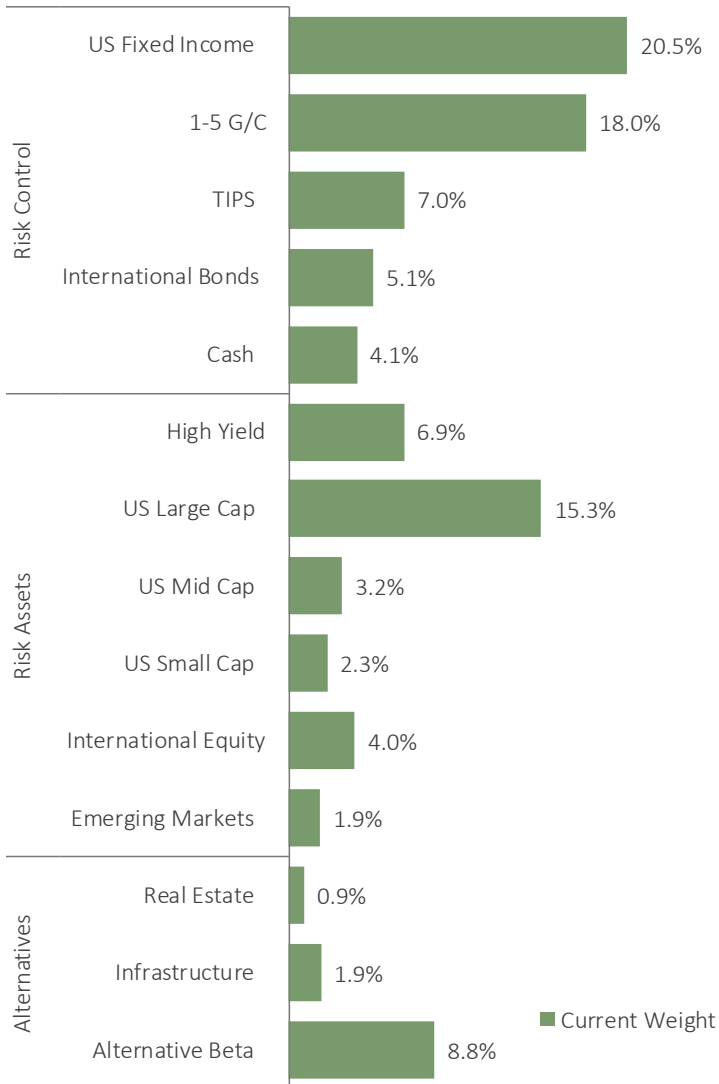
Portfolio Review

Northwest Arctic Borough Contingency Reserve

Portfolio Review	Strategic Review	Market Review	Appendix
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Asset Allocation as of May 31, 2023

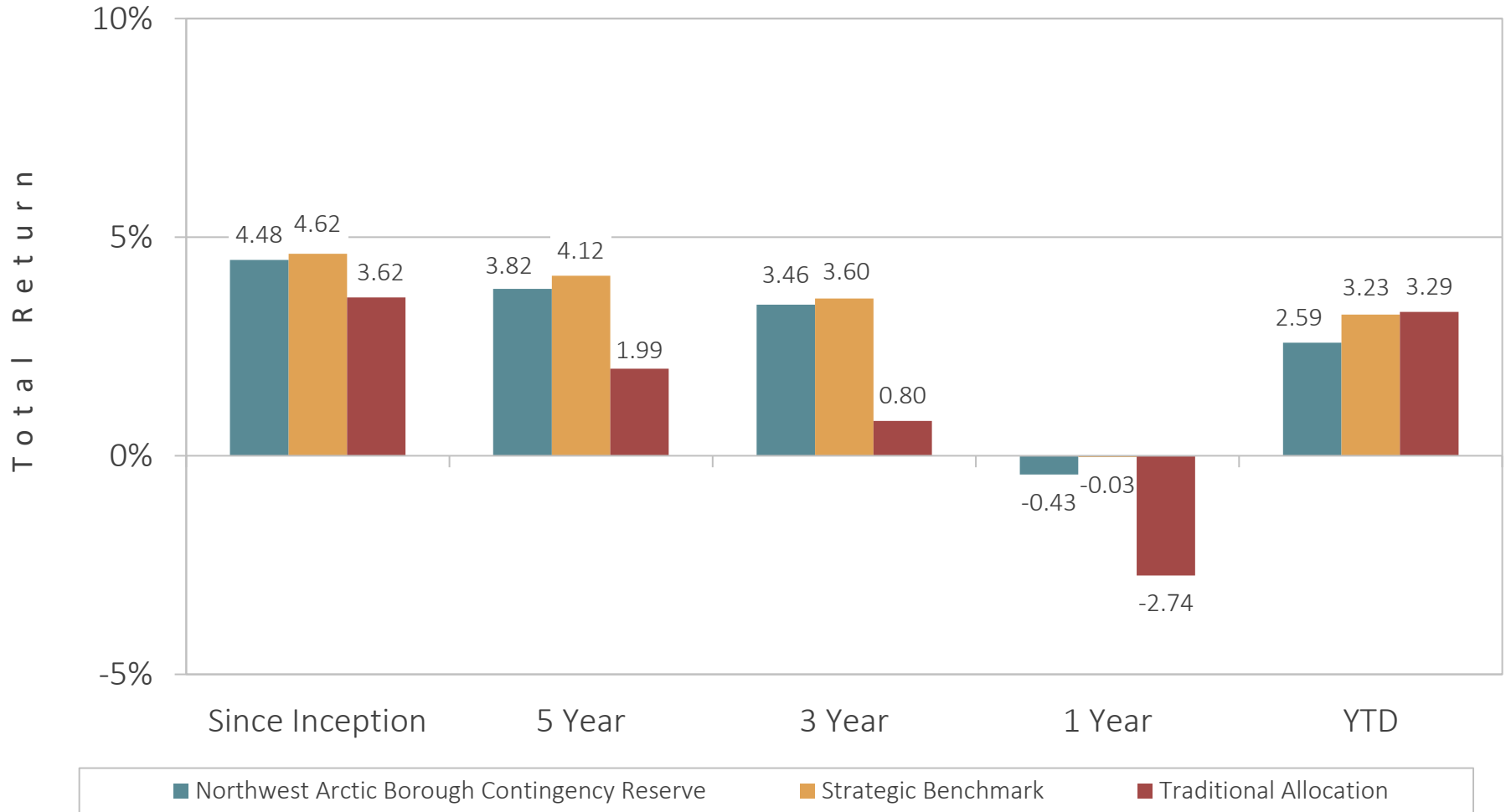
Northwest Arctic Borough Contingency Reserve



Asset Class	Strategic Weight	Overweight / Underweight	Range
Risk Control			
	53%	1.7%	
US Fixed Income	20%	0.5%	10 - 30%
1-5 G/C	18%	0.0%	10 - 32%
TIPS	5%	2.0%	0 - 10%
International Bonds	5%	0.1%	0 - 10%
Cash	5%	-0.9%	0 - 10%
Risk Assets			
	34%	-0.3%	
High Yield	7%	-0.1%	0 - 12%
US Large Cap	15%	0.3%	5 - 25%
US Mid Cap	4%	-0.8%	0 - 8%
US Small Cap	2%	0.3%	0 - 4%
International Equity	4%	0.0%	0 - 8%
Emerging Markets	2%	-0.1%	0 - 4%
Alternatives			
	13%	-1.3%	
Real Estate	1%	-0.1%	0 - 4%
Infrastructure	2%	-0.1%	0 - 4%
Alternative Beta	10%	-1.2%	0 - 15%

Account Performance as of May 31, 2023

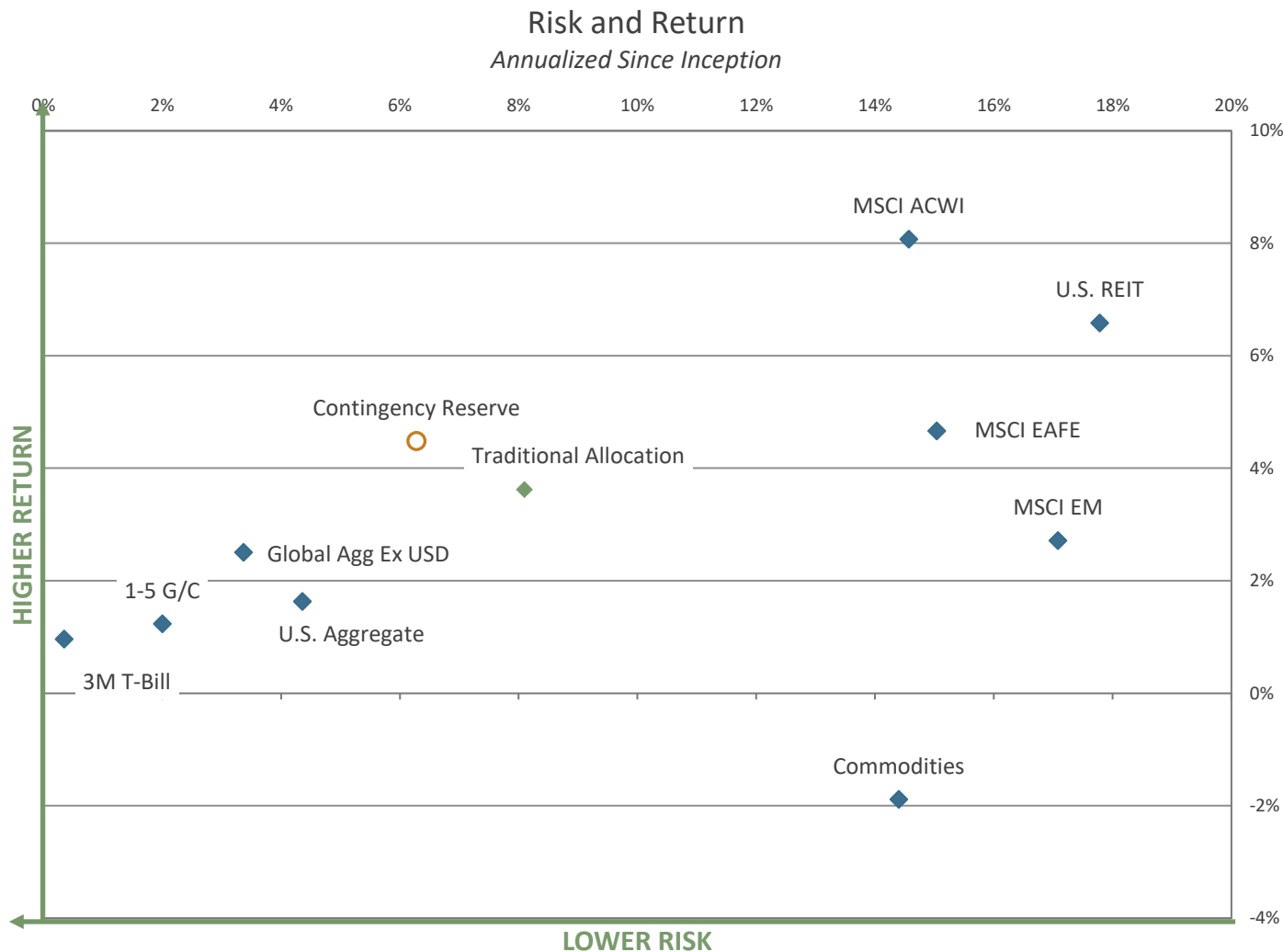
Northwest Arctic Borough Contingency Reserve



Performance is gross of management fees, net of internal fund fees, and annualized for periods greater than one year. Portfolio inception performance begins on August 31, 2013. Strategic benchmark is a blended return of the account's target allocation. The Traditional Allocation represents a portfolio comprised of the ACWI World Index and Bloomberg Global Aggregate Index blended at weights that match the exposures of the Contingency Reserve's strategic asset allocation, changed and linked when changes to the strategic asset allocation have been made.

APCM's Asset Allocations Access Return More Efficiently

Northwest Arctic Borough Contingency Reserve



- ❖ The graphic depicts realized risk and annualized return for the NWAB Contingency Reserve relative to a traditional global stock and bond allocation and several broad market indices.
- ❖ The Contingency Reserve has earned a higher return than the traditional allocation while taking on less risk, which shows the benefits of strategic planning and APCM's portfolio construction.

Performance is gross of management fees, net of internal fund fees, and annualized for periods greater than one year. Source: Bloomberg. The Traditional Allocation represents a portfolio comprised of the ACWI World Index and Bloomberg Global Aggregate Index blended at weights that match the exposures of the Contingency Reserve's strategic asset allocation, changed and linked when changes to the strategic asset allocation have been made.

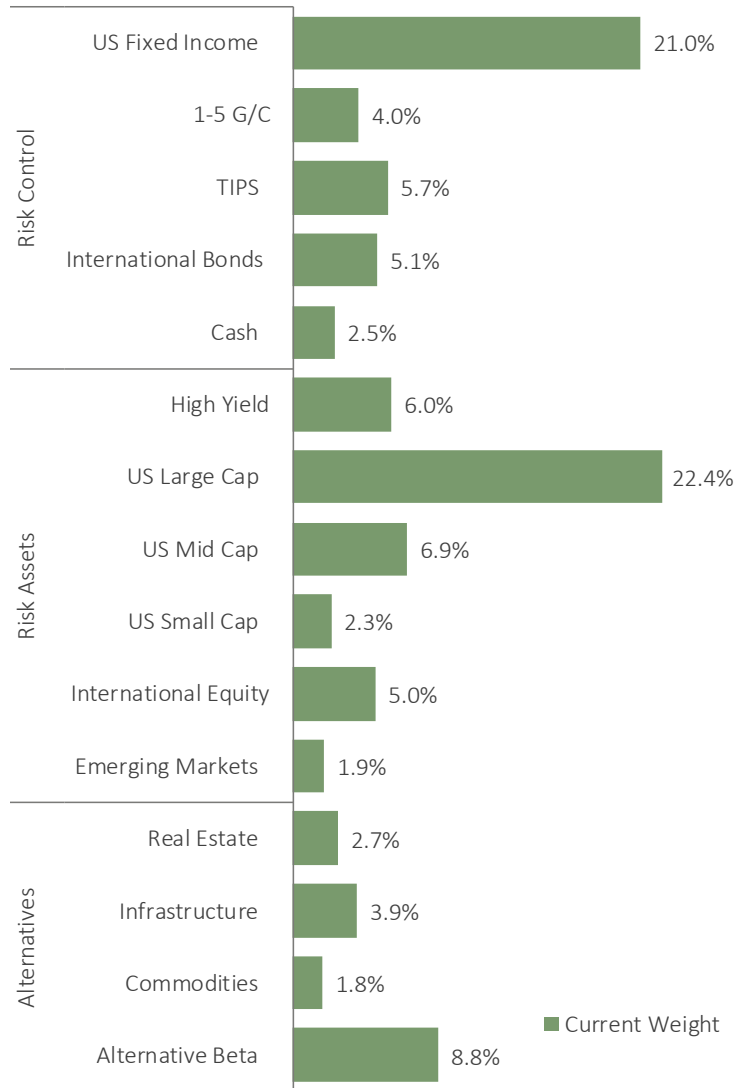
Portfolio Review

Northwest Arctic Borough GF Sustainability Fund

Portfolio Review	Strategic Review	Market Review	Appendix
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Asset Allocation as of May 31, 2023

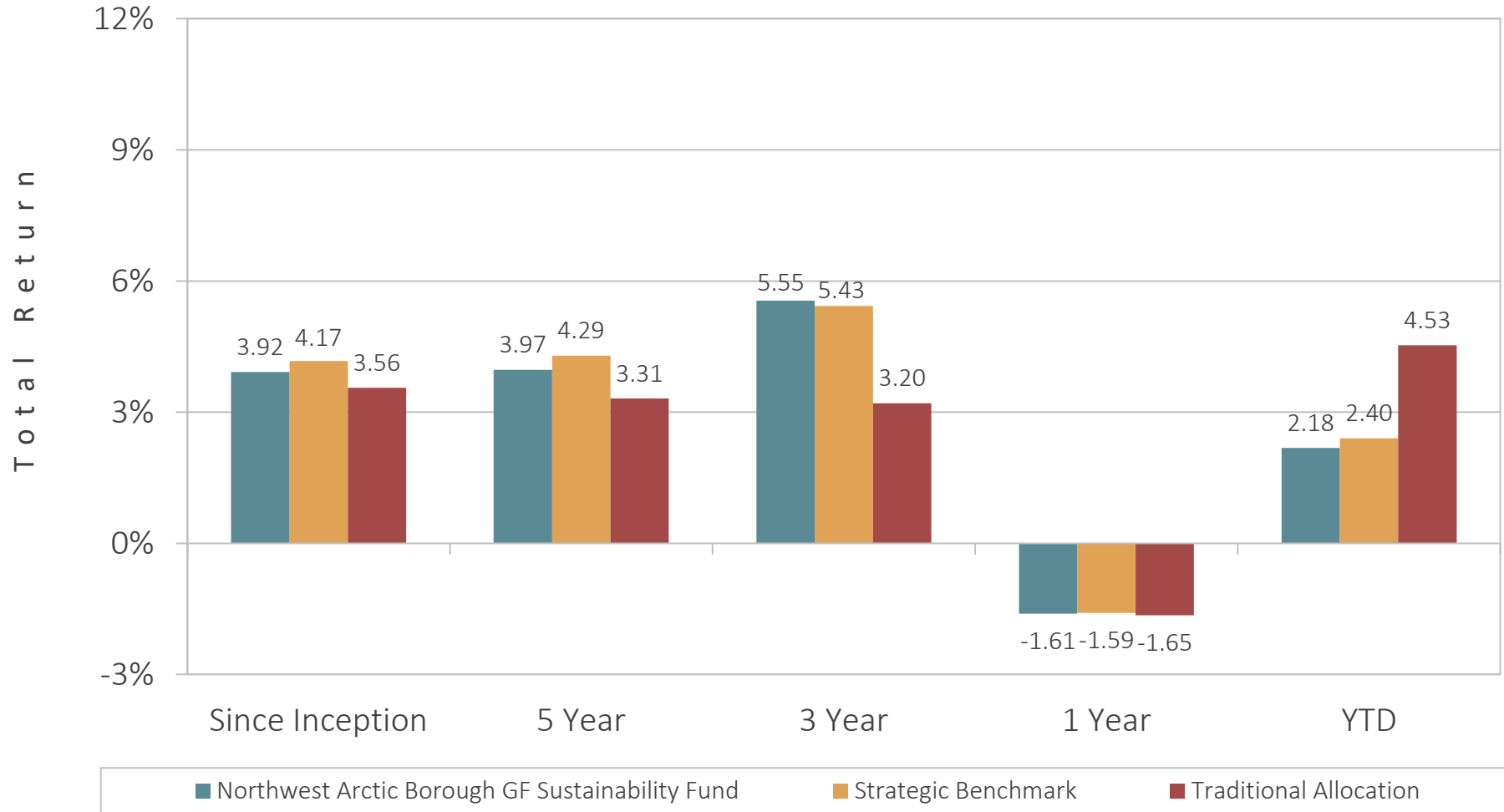
Northwest Arctic Borough GF Sustainability Fund



Asset Class	Strategic Weight	Overweight / Underweight	Range
Risk Control			
	36%	2.4%	
US Fixed Income	20%	1.0%	10 - 30%
1-5 G/C	4%	0.0%	0 - 8%
TIPS	4%	1.7%	0 - 8%
International Bonds	5%	0.1%	0 - 10%
Cash	3%	-0.5%	0 - 10%
Risk Assets			
	45%	-0.6%	
High Yield	6%	0.0%	0 - 12%
US Large Cap	22%	0.4%	12 - 32%
US Mid Cap	8%	-1.1%	0 - 16%
US Small Cap	2%	0.3%	0 - 4%
International Equity	5%	0.0%	0 - 10%
Emerging Markets	2%	-0.1%	0 - 4%
Alternatives			
	19%	-1.8%	
Real Estate	3%	-0.3%	0 - 6%
Infrastructure	4%	-0.1%	0 - 8%
Commodities	2%	-0.2%	0 - 4%
Alternative Beta	10%	-1.2%	0 - 15%

Account Performance as of May 31, 2023

Northwest Arctic Borough GF Sustainability Fund



Performance is gross of management fees, net of internal fund fees, and annualized for periods greater than one year. Portfolio inception performance begins on August 31, 2017. Strategic benchmark is a blended return of the account's target allocation. The Traditional Allocation represents a portfolio comprised of the ACWI World Index and Bloomberg Global Aggregate Index blended at weights that match the exposures of the GF Sustainability Fund's strategic asset allocation, changed and linked when changes to the strategic asset allocation have been made.

APCM's Asset Allocations Access Return More Efficiently

Northwest Arctic Borough GF Sustainability Fund



- ❖ The graphic depicts realized risk and annualized return for the NWAB GF Sustainability Fund relative to a traditional global stock and bond allocation and several broad market indices.
- ❖ The GF Sustainability Fund has earned a higher return than the traditional allocation while taking on less risk, which shows the benefits of strategic planning and APCM's portfolio construction.

Performance is gross of management fees, net of internal fund fees, and annualized for periods greater than one year. Source: Bloomberg. The Traditional Allocation represents a portfolio comprised of the ACWI World Index and Bloomberg Global Aggregate Index blended at weights that match the exposures of the GF Sustainability Fund's strategic asset allocation, changed and linked when changes to the strategic asset allocation have been made.

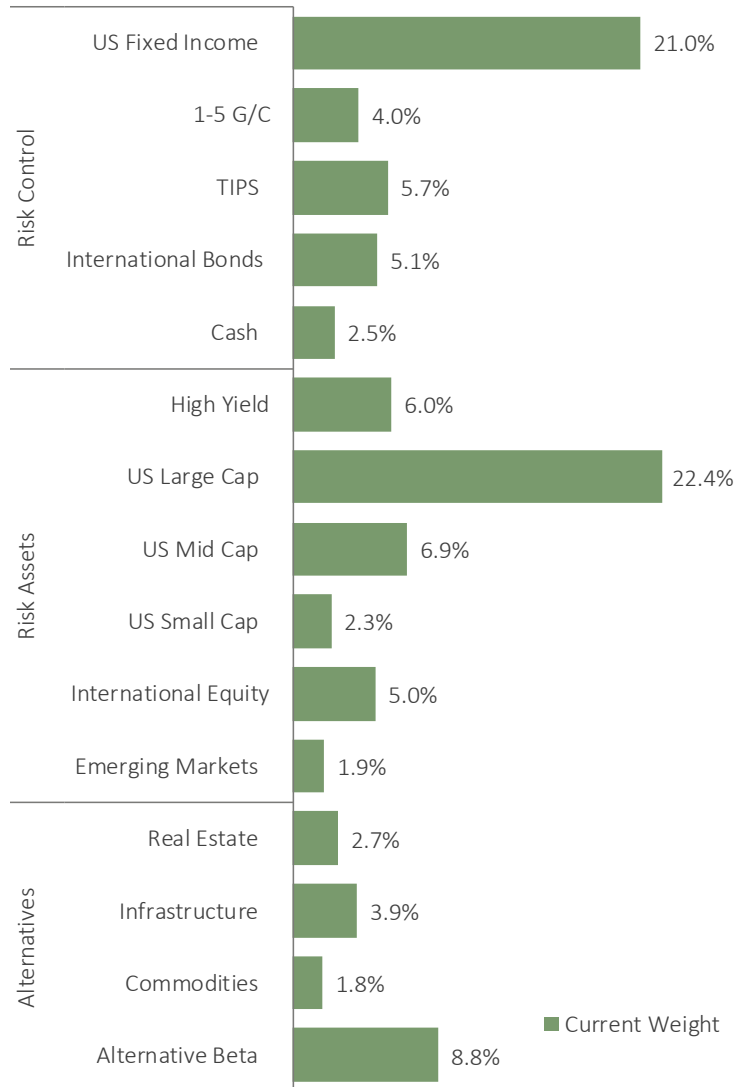
Portfolio Review

Northwest Arctic Borough VIF Sustainability Fund

Portfolio Review	Strategic Review	Market Review	Appendix
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Asset Allocation as of May 31, 2023

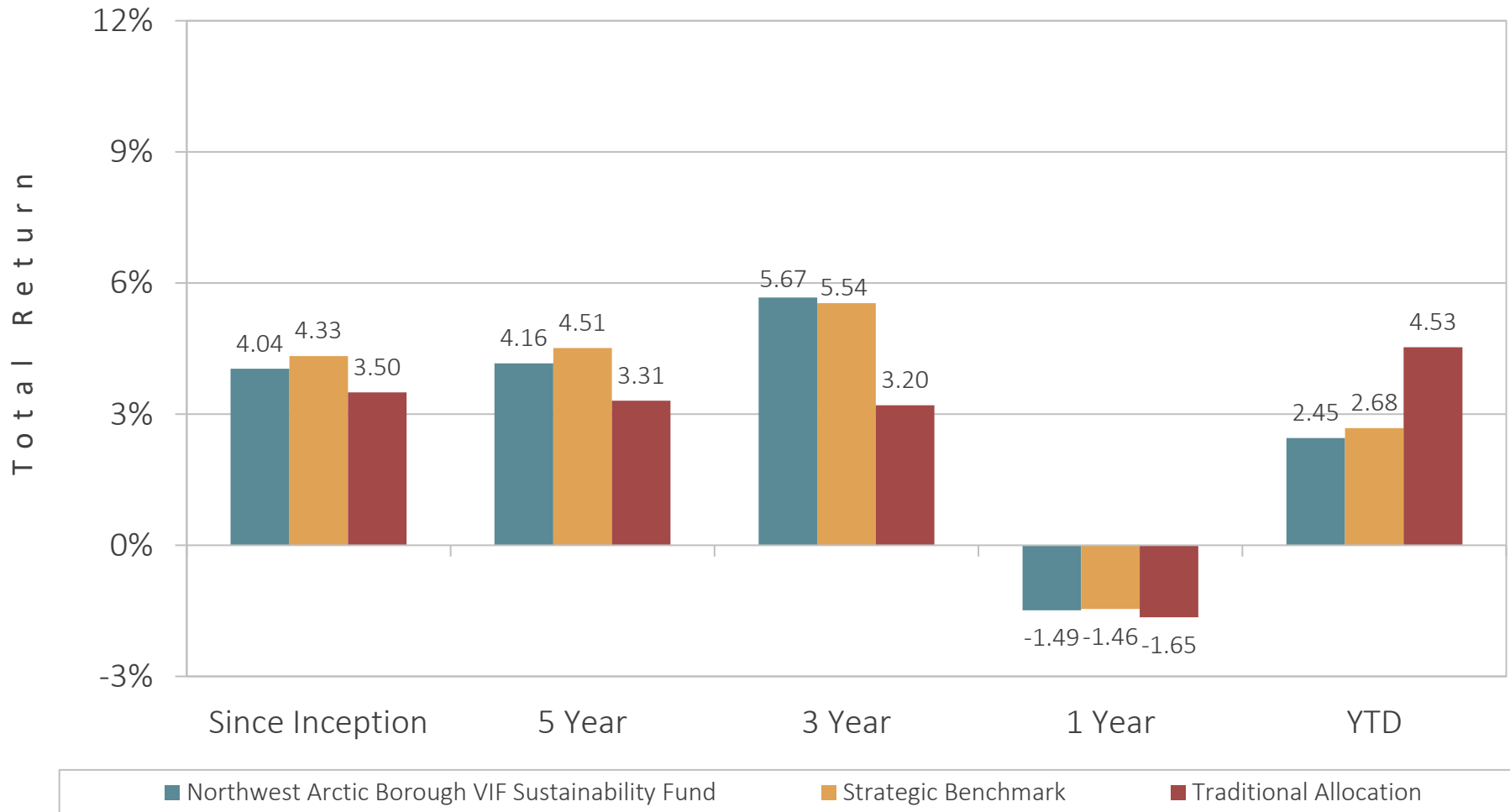
Northwest Arctic Borough VIF Sustainability Fund



Asset Class	Strategic Weight	Overweight / Underweight	Range
Risk Control			
	36%	2.4%	
US Fixed Income	20%	1.0%	10 - 30%
1-5 G/C	4%	0.0%	0 - 8%
TIPS	4%	1.7%	0 - 8%
International Bonds	5%	0.1%	0 - 10%
Cash	3%	-0.5%	0 - 10%
Risk Assets			
	45%	-0.6%	
High Yield	6%	0.0%	0 - 12%
US Large Cap	22%	0.4%	12 - 32%
US Mid Cap	8%	-1.1%	0 - 16%
US Small Cap	2%	0.3%	0 - 4%
International Equity	5%	0.0%	0 - 10%
Emerging Markets	2%	-0.1%	0 - 4%
Alternatives			
	19%	-1.8%	
Real Estate	3%	-0.3%	0 - 6%
Infrastructure	4%	-0.1%	0 - 8%
Commodities	2%	-0.2%	0 - 4%
Alternative Beta	10%	-1.2%	0 - 15%

Account Performance as of May 31, 2023

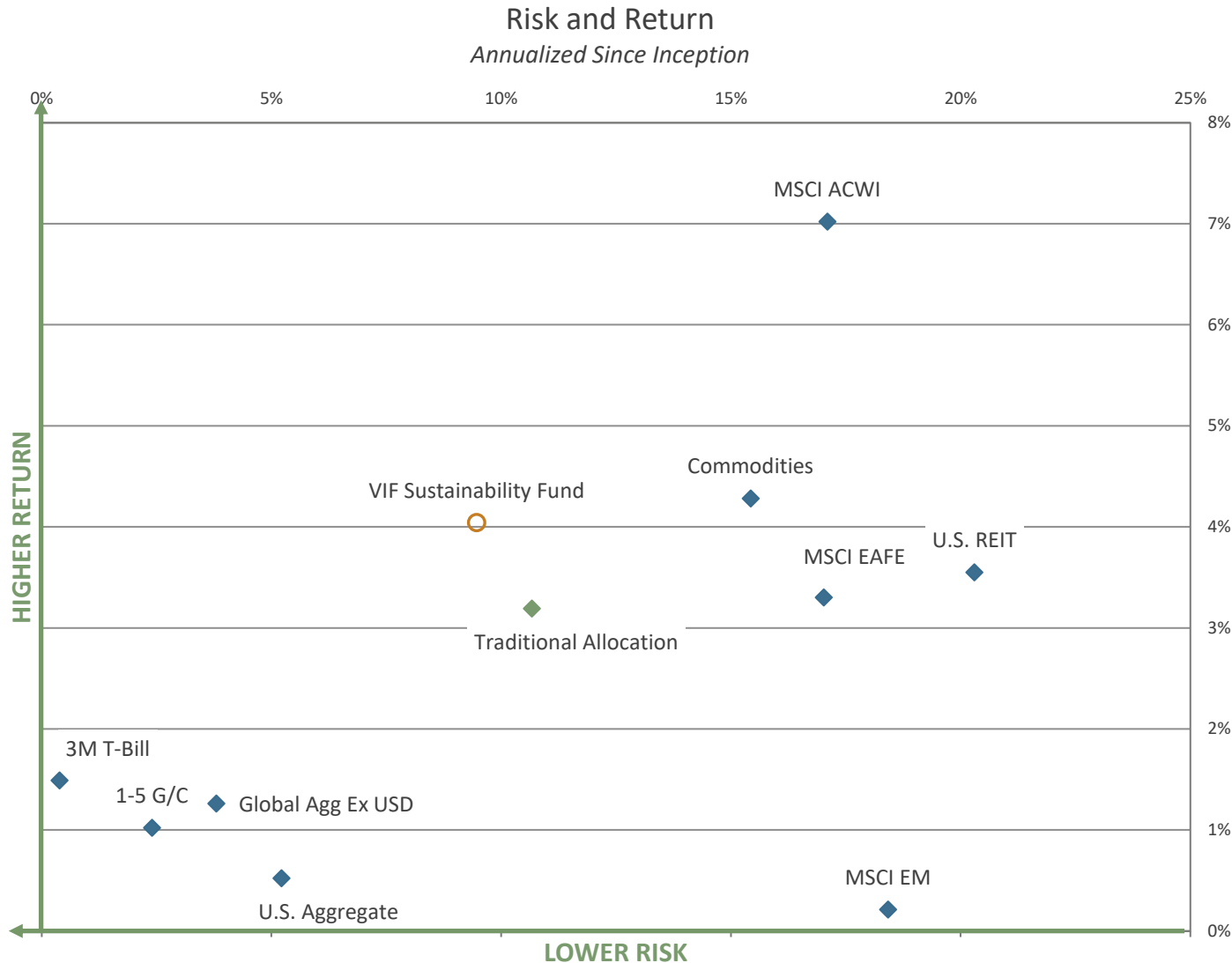
Northwest Arctic Borough VIF Sustainability Fund



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Northwest Arctic Borough VIF Sustainability Fund



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Strategic Review

Portfolio Review

Strategic Review

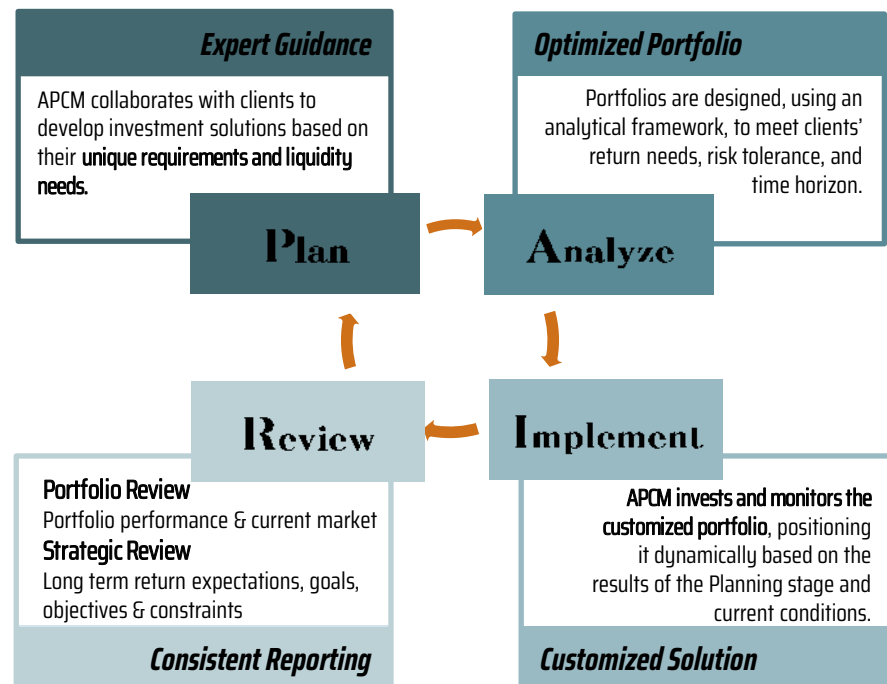
Market Review

Appendix

Prudent Investment Management Process

Northwest Arctic Borough GF Sustainability Fund

- APCM'S prudent investment process is an integrated set of steps undertaken consistently to **create and maintain an optimal portfolio**.
- APCM designed this process to **promote and protect the client's interests** and continuously confirm that **each client's customized strategy achieves the highest return possible given a specified level of risk**.
- This process is perpetual and formal reviews conducted each year maintain a customized investment strategy.
 - Prudently evaluates new investment opportunities.
 - Confirms the ability of the strategic allocation(s) to meet the stated long-term investment objectives.



Goals and Objectives

Northwest Arctic Borough GF Sustainability Fund

The **primary** goal of the Fund is to maximize long-term investment growth.

The **secondary** goal of the Fund is to maintain the safety of the Fund's principal.

Post-FY'30 Target Return

$$2.5\%^* + 4.0\% = 6.5\%$$

Inflation

Distribution

* Inflation is based upon APCM's 10-year forward-looking expectations in order to determine a target return for the simulation horizon.

Key Takeaways

Northwest Arctic Borough GF Sustainability Fund



The General Fund Sustainability Fund's current strategic asset allocation **is expected to meet the Fund's future return goal** of inflation + 4.0% (per NABC 6.28.050(B)) over the analysis horizon. There are no recommendations at this time.



Higher interest rates after last year's Fed rate hikes have increased the forward-looking long-term return expectation (to 6.6% from 5.9%) more than usual during APCM's annual analysis and review of the next ten years.

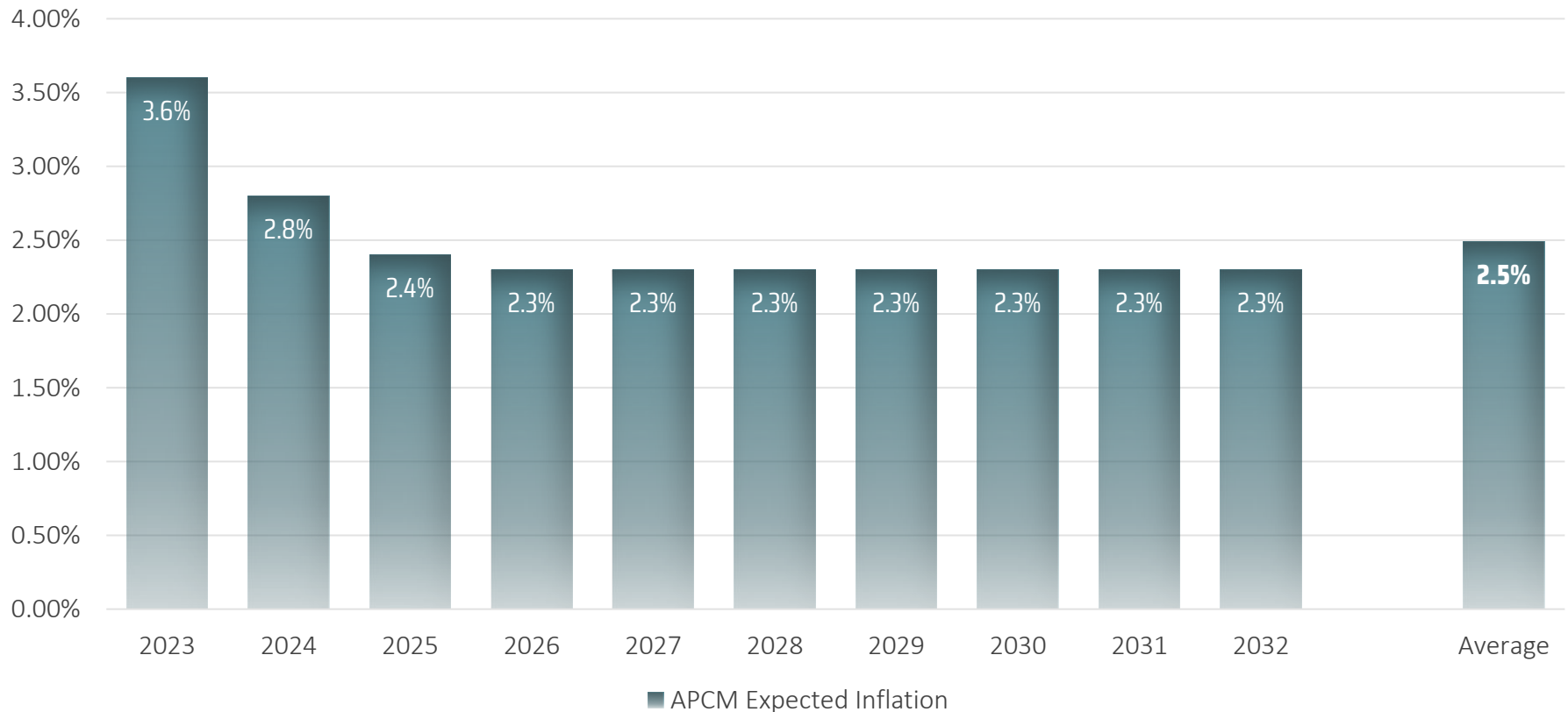


APCM's inflation expectations over the next ten years also increased to 2.5% from 2.25% last year. More persistent price and wage increases have pushed out expectations for a return to normal.

Building Forward Inflation Expectations

Northwest Arctic Borough GF Sustainability Fund

















- ▶ APCM's average expected inflation rate over the next 10 years is 2.5% annually.
- ▶ This expectation incorporates higher inflation expectations in the near term, and is developed using third party research, Federal Reserve Projection Materials, and APCM's analysis.



Source: March 2023 Federal Reserve Projection Materials

2023 Forward-Looking Return Expectations

Northwest Arctic Borough GF Sustainability Fund

	Asset Class	2023	Change	Rationale
Risk Assets	U.S. Large Cap Equity	9.26%	-0.3% 	Added expectations for a shallow recession in the near-term.
	U.S. Mid Cap Equity	10.66%	-0.2% 	Added expectations for a shallow recession in the near-term.
	U.S. Small Cap Equity	10.72%	-0.3% 	Added expectations for a shallow recession in the near-term.
	International Developed Equity	9.98%	 1.9%	U.S. Dollar expected to depreciate from strong performance in 2022.
	Emerging Markets Equity	10.84%	 0.3%	Friend-shoring, China slowdown, and FX expectations combine for slight increase.
	U.S. High Yield Corporate Bonds	7.98%	 1.5%	The Fed's policy changes in 2022 have significantly increased yields.
Alternatives	U.S. REITs	9.63%	-0.2% 	Higher rates expected to impact REITs until policy is normalized.
	Global Infrastructure	8.77%	 1.5%	Higher inflation than the post-GFC period should boost global infrastructure.
	Commodities	3.52%	-1.2% 	High current prices reduce the probability commodities will outpace global inflation.
	Alternative Beta	6.62%	 0.8%	These strategies target an absolute return above cash, which increased expectations.
	Private Equity	12.26%	-0.3% 	Added expectations for a shallow recession in the near-term.
Risk Control	U.S. Aggregate Bonds	4.22%	 1.5%	Starting rates high with expectations for future rate cuts improve return.
	U.S. 1-5 Year Government / Credit	3.75%	 1.2%	Starting rates high with expectations for future rate cuts improve return.
	U.S. 0-5 Year TIPS	3.90%	 1.8%	Higher start rates and inflation improve expectations for TIPS.
	International Bonds	3.27%	 1.5%	Higher starting rates increased expectations, while hedging costs rise.
	Cash	3.00%	 1.9%	The Fed's 2022 policy changes in 2022 have impacted short-term rates most.

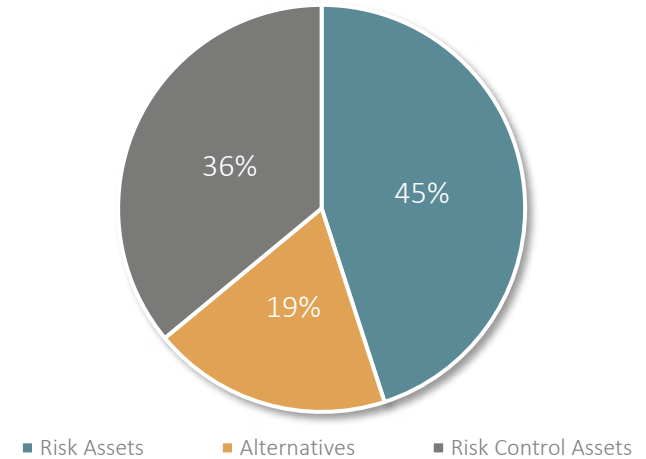
Portfolio Return and Risk Characteristics

Northwest Arctic Borough GF Sustainability Fund

Expected to Meet Post-FY'30 Target Return

- Per NABC 6.28.010, the purpose of the sustainability fund is to utilize revenue for long-term investment that will eventually yield investment revenue to help augment borough operations in the absence of sufficient tax or payment in lieu of taxes revenue.
- Per NABC 6.28.050(B), after fiscal year 2030, on an annual basis, the assembly may approve, by a three-fourths vote of assembly members, the use of up to **four percent of the five-year average of the sustainability fund's calendar-year-end market value.**

Current



Characteristics

Current

	Expected	Range*
Annual Return (Gross)	7.0%	-10.7% to 24.3%
Long-Term Return (Gross)	6.6%	6.3% to 6.9%
Net Earnings Long-Term Return Less 2.5% Expected Inflation	4.0%	3.7% to 4.2%
Avg. Loss in Extreme Conditions (Gross) Within a 1-Year Horizon	-20.8%	

* Range denotes the 95% confidence interval. Risk and return data from Windham Portfolio Advisor.

Wealth Simulations 10-Year Horizon

Northwest Arctic Borough GF Sustainability Fund

Modeling Assumptions

\$48.59M

Starting
Market
Value

\$53.7M

Cumulative
Deposits
(30% of RDM PILT
Revenue 6.28.030(A))

\$5.3M

Average Total
Transfers from
Contingency Reserve

4.0%

of 5-Year Average
Market Value
Withdrawal Rate

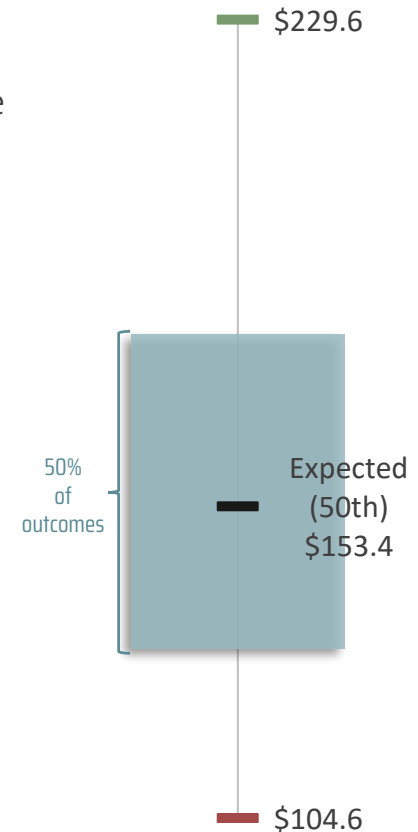


The expected ending market value (right) is \$153.4M on June 30, 2033.

50% of the scenarios ended the modeling horizon between \$131.1M and \$180.3M.



Withdrawals were calculated based on 4.0% of the average of the last five calendar-year-end market values of the Sustainability Fund, as stipulated in NABC 6.28.050(B).

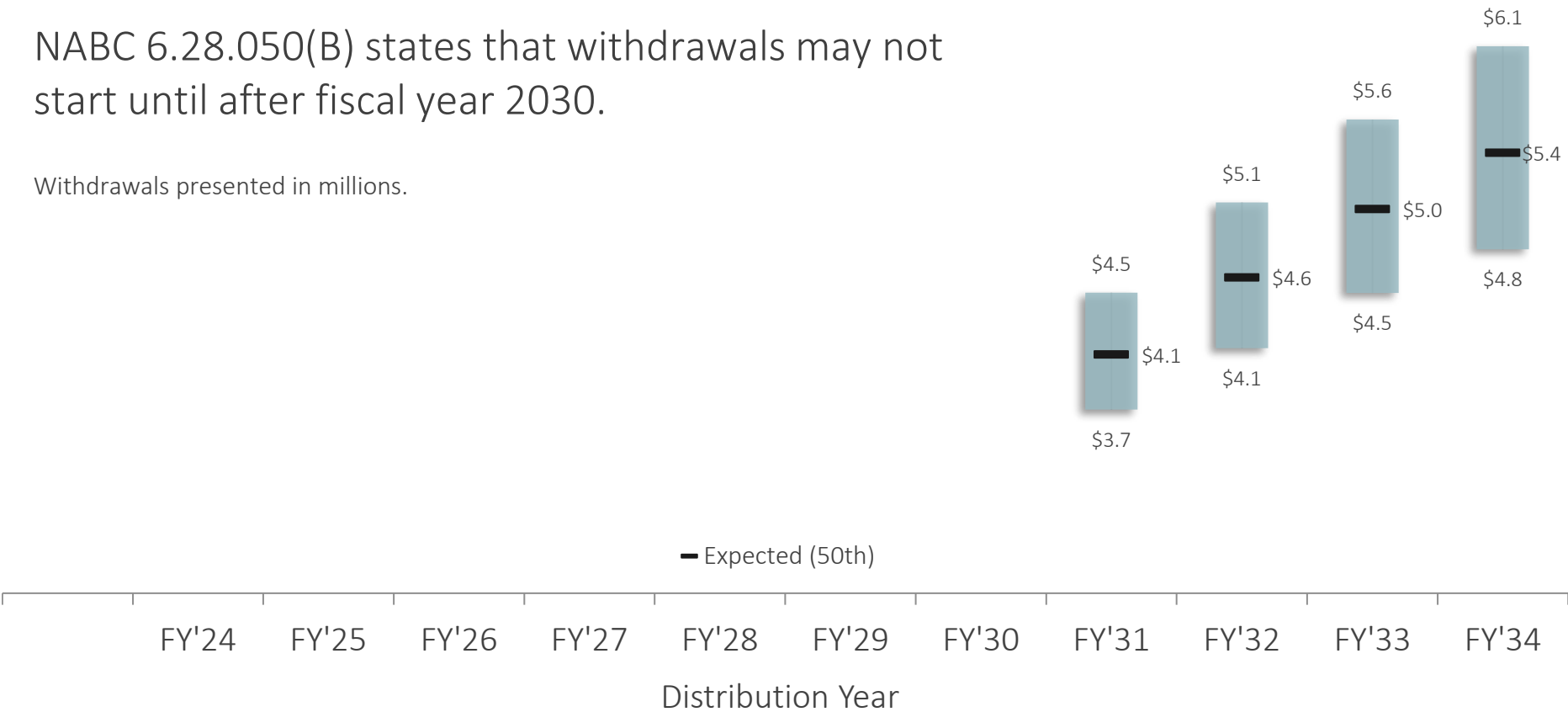


Range of Expected Withdrawals

Northwest Arctic Borough GF Sustainability Fund

NABC 6.28.050(B) states that withdrawals may not start until after fiscal year 2030.

Withdrawals presented in millions.



Withdrawals (\$ millions)	FY'24	FY'25	FY'26	FY'27	FY'28	FY'29	FY'30	FY'31	FY'32	FY'33	FY'34
4% Distribution Rate	—	—	—	—	—	—	—	4.07	4.58	5.03	5.40

Risk and return data from Windham Portfolio Advisor. Withdrawals presented in the table are at the 50% CL.

Key Projections in Modeling Results

Northwest Arctic Borough GF Sustainability Fund

Levers that can Change Expected Outcomes



Expected Future **Budget**



Expected Future **Revenues**



Expected **Deposits**



Expected Portfolio
Risk & Return



Change
Amount
Needed



Change
Expected
Withdrawal
Amounts

- **APCM can provide additional modeling** should the Borough request that **further scenarios** – with changes to current expectations for the levers above – **be considered**.
- If changes to the first three levers are to be considered, APCM would **need NAB to provide these expectations** to do additional modeling, if requested.
- Changes to the expected risk and return of the portfolio are based upon **APCM's forward-looking risk and return assumptions** for each asset class.
 - APCM can provide modeling for strategic asset allocations with higher or lower **risk & return** expectations.

Market Review

Portfolio Review

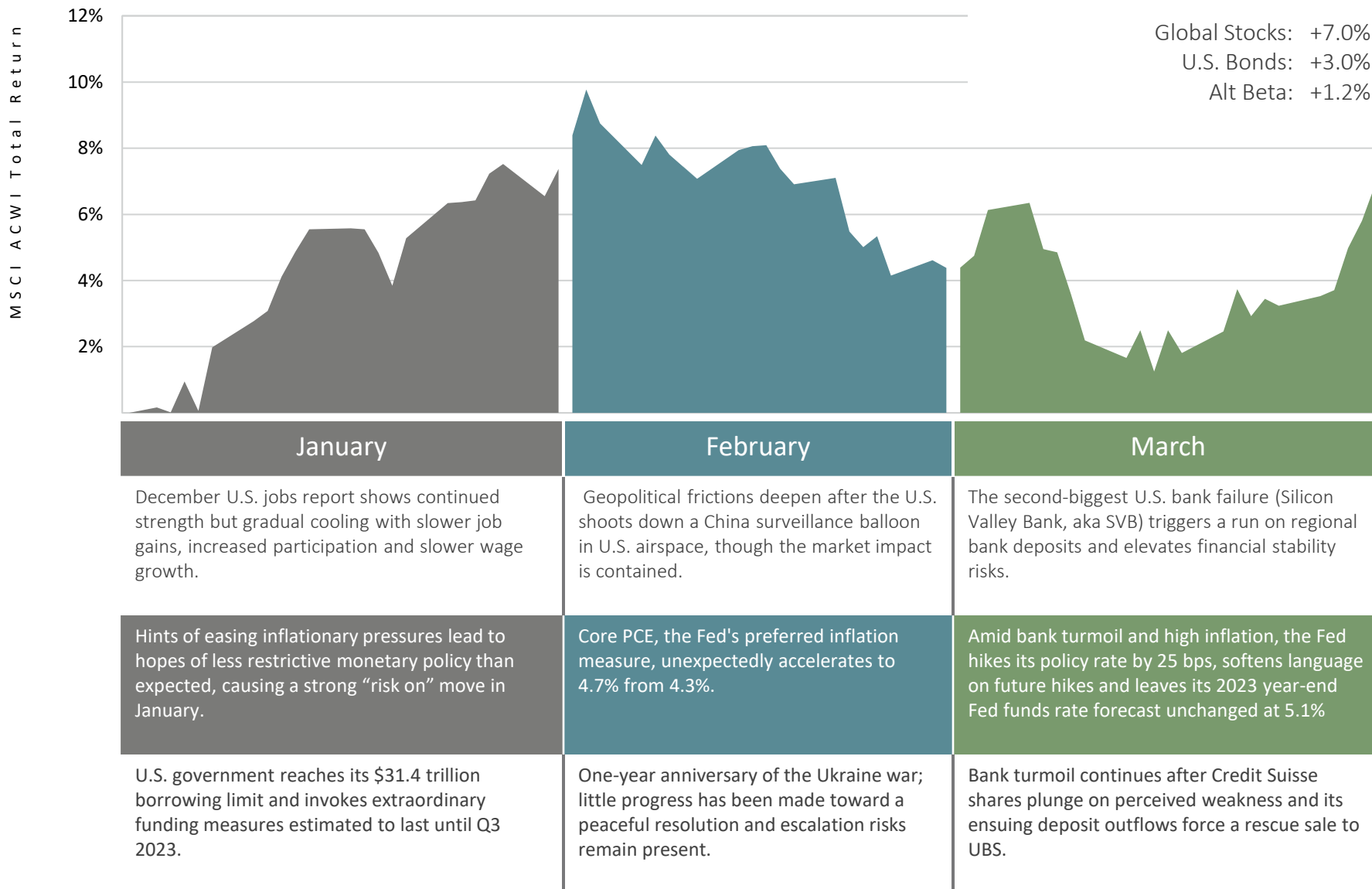
Strategic Review

Market Review

Appendix

Positive Returns Amidst Uncertainty

Market Recap Q1 2023



Data: Bloomberg. Global Stocks, US Bonds, and Alternative Beta are represented by MSCI ACWI, Bloomberg Agg, and Willshire Liquid Alt Indices, respectively.

Revisiting the Investment Outlook

Banking Stress Amplifies the Probability of Recession

Stress in the financial sector increases the probability of **scenario 2** (*moderate recession and eventual rate cuts*) as the strain in the financial sector will eventually magnify the impact of Fed tightening and further cool the economy. In turn, this should bring forward Fed relief which would eventually be supportive for both stocks and bonds.

Scenario 1

- ❖ The most **difficult descent** would occur if inflation stayed higher for longer, forcing central banks to **increase rates more than anticipated**.

Rates
Increase



Severe
Recession



Central
Banks
Pivot



Bond
Prices
Rise

- ❖ This route could give rise to a **severe recession**, which would be **painful for equity investors** as valuations are pushed even lower.

- ❖ Interest rates would decline, and **bond prices increase**, which would allow for a painful, but **ultimately successful descent**.

Scenario 2

- ❖ A **less challenging route** would ensue should a **shallow recession** with easing inflationary pressures occur.

- ❖ This environment would allow **central banks to stay on course**, lessening market volatility and uncertainty.

- ❖ The shallow recession would cause **lower interest rates, strong bond returns and a floor for the stock market**.

Shallow
Recession



Central Banks
Stay on Course



Volatility
Falls

Scenario 3

- ❖ The **ideal route** would call for central bankers delivering a **soft economic landing**.

- ❖ **Avoiding an economic recession** will require inflation moderation via **precise monetary policy** decisions.

- ❖ In this route, there would be minimal earnings impact, providing **support for equity valuations**. As rates peak and begin rolling over, **bond prices would rise**.

Inflation
Moderates
Quickly



Soft
Economic
Landing



Minimal
Earnings
Impact

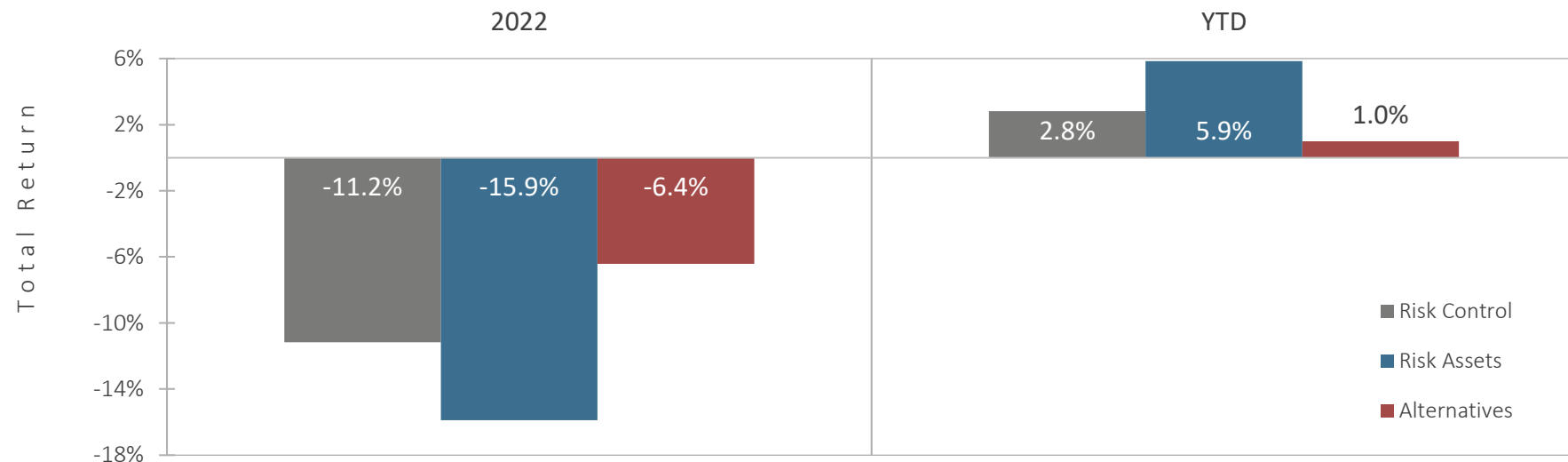


Equity
Prices
Rise

Adjusting for Heightened Economic Uncertainty

Asset Class Returns and Positioning as of March 31, 2023

- ❖ Going into 2023, APCM's positioned portfolios neutral risk control, risk assets, and alternatives as we were anticipating heightened volatility until certainty regarding peak inflation, rates, and valuations materialized. Within risk assets, portfolios were positioned to be modestly overweight companies with high free cashflow yield, attractive valuations, and strong balance sheets.
- ❖ APCM is now positioned slightly overweight risk control assets across the risk spectrum as stress in the banking sector increases the odds of the mild recession scenario, and the debt ceiling debate is around the corner. Additionally, with the expected tightening in lending standards, commercial real estate is under pressure, therefore, we have reduced exposure to broad REITS in favor of Industrial REITs which have a stronger fundamental backdrop, reasonable valuations, and less elastic demand.



	RISK CONTROL						RISK ASSETS					ALTERNATIVES			
	FIXED INCOME						EQUITIES					ALTERNATIVES			
	Cash	U.S. Fixed Income	1-5 Gov. Credit	TIPS	Intl. Fixed Income	HY Fixed Income	U.S. Large Cap	U.S. Mid Cap	U.S. Small Cap	Dev. Ex- U.S.	Emerging Markets	Comm.	Real Estate	Infra.	Alt. Beta
YTD	1.1	3.0	1.8	2.2	3.2	3.8	7.5	3.8	2.6	8.5	4.0	-5.4	2.7	3.2	1.2
CY' 2022	1.5	-13.0	-5.5	-2.7	-12.7	-11.9	-18.1	-13.1	-16.1	-14.5	-20.1	16.1	-24.4	-10.1	-5.6
5 Year	1.4	0.9	1.3	3.0	0.4	2.8	11.2	7.7	6.3	3.5	-0.9	5.4	6.0	5.0	1.3
10 Year	0.9	1.4	1.1	1.5	2.1	3.6	12.2	9.8	9.9	5.0	2.0	-1.7	5.8	5.7	1.3

Data: Bloomberg. Asset class performance is represented by the stated index return. Returns annualized for periods greater than one year.

Appendix

Portfolio Review

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Appendix

Portfolio Appraisal

NORTHWEST ARCTIC BOROUGH CONTINGENCY RESERVE #6601

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
AGENCIES									
60,000	FREDDIE MAC 0.450% Due 12-24-24	100.00	60,000	92.98	55,790	0.61	270	50	5.17
50,000	FEDERAL HOME LOAN BANK 0.500% Due 04-14-25	100.35	50,173	93.05	46,526	0.51	250	33	4.41
40,000	FEDERAL HOME LOAN BANK 0.600% Due 08-27-25	99.90	39,960	91.30	36,520	0.40	240	63	4.74
40,000	FHLB 1.625% Due 03-12-27	104.27	41,707	91.61	36,642	0.40	650	143	4.04
20,000	FEDERAL FARM CREDIT BANK 5.870% Due 10-24-29	99.70	19,940	99.01	19,801	0.22	1,174	121	6.06
20,000	FEDERAL HOME LOAN BANK 1.400% Due 01-09-31	76.05	15,211	80.18	16,037	0.18	280	96	4.50
10,000	FEDERAL HOME LOAN BANK 2.400% Due 02-17-32	85.94	8,594	84.16	8,416	0.09	240	69	4.63
	Accrued Interest				574	0.01			
			235,585		220,307	2.42		574	
ALTERNATIVE BETA									
37,887	BLCKRCK SYST MULTI-STR-INST	10.35	392,240	9.58	362,962	3.98	NA		
10,898	CORE ALTERNATIVE ETF	30.33	330,493	27.68	301,657	3.31	NA		
4,726	IQ HEDGE MULTI-STRAT TRACKER	29.27	138,331	29.17	137,857	1.51	NA		
			861,064		802,476	8.80			
CORPORATE BONDS									
50,000	BANK OF NEW YORK MELLON 2.200% Due 08-16-23	97.83	48,916	99.21	49,603	0.54	1,100	321	5.94
50,000	JPMORGAN CHASE & CO 3.875% Due 02-01-24	105.18	52,590	99.05	49,523	0.54	1,937	646	5.32
50,000	METLIFE INC 3.600% Due 04-10-24	105.46	52,732	98.45	49,227	0.54	1,800	255	5.44
50,000	WELLS FARGO & COMPANY 3.300% Due 09-09-24	102.06	51,030	97.49	48,744	0.53	1,650	376	5.35
50,000	CITIGROUP INC 3.700% Due 01-12-26	101.65	50,823	96.64	48,319	0.53	1,850	714	5.08
50,000	TARGET CORP 2.500% Due 04-15-26	96.08	48,041	95.40	47,699	0.52	1,250	160	4.21
10,000	DARDEN RESTAURANTS INC 3.850% Due 05-01-27	110.59	11,059	96.34	9,634	0.11	385	32	4.88

Portfolio Appraisal

NORTHWEST ARCTIC BOROUGH CONTINGENCY RESERVE #6601

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
50,000	LOWE'S COS INC 3.100% Due 05-03-27	100.05	50,024	94.31	47,154	0.52	1,550	121	4.70
25,000	SOUTHWEST AIRLINES CO 5.125% Due 06-15-27	116.77	29,192	99.53	24,883	0.27	1,281	591	5.25
35,000	BORGWARNER INC 2.650% Due 07-01-27	107.34	37,568	91.54	32,040	0.35	927	386	4.96
25,000	ANHEUSER-BUSCH INBEV WORLDWIDE 4.000% Due 04-13-28	114.31	28,577	97.85	24,463	0.27	1,000	133	4.49
15,000	AERCAP IRELAND CAP/GLOBA 5.750% Due 06-06-28	99.03	14,855	99.15	14,872	0.16	862	0	5.95
35,000	KLA CORP 4.100% Due 03-15-29	118.78	41,574	97.26	34,042	0.37	1,435	303	4.64
30,000	CONOCOPHILLIPS COMPANY 6.950% Due 04-15-29	138.92	41,675	111.20	33,361	0.37	2,085	266	4.74
25,000	INTEL CORP 3.900% Due 03-25-30	113.48	28,371	94.70	23,674	0.26	975	179	4.82
35,000	MAGELLAN MIDSTREAM PARTN 3.250% Due 06-01-30	111.17	38,910	87.38	30,584	0.34	1,137	569	5.44
45,000	SIMON PROPERTY GROUP LP 2.650% Due 07-15-30	104.58	47,060	85.13	38,310	0.42	1,192	450	5.17
25,000	OMEGA HLTHCARE INVESTORS 3.375% Due 02-01-31	101.92	25,479	78.91	19,727	0.22	844	281	6.97
15,000	KIMCO REALTY CORP 3.200% Due 04-01-32	99.17	14,875	83.22	12,483	0.14	480	80	5.64
	Accrued Interest				5,863	0.06			
			713,355		644,209	7.07		5,863	
DOMESTIC MID CAP EQUITY FUNDS/ETF									
1,225	ISHARES CORE S&P MIDCAP 400 ETF	204.33	250,307	240.22	294,269	3.23	NA		
EMERGING MARKET FUNDS/ETF									
3,636	ISHARES ETF CORE MSCI EMERGING MKTS	53.63	194,984	47.58	173,001	1.90	NA		
DOMESTIC FIXED INCOME FUNDS/ETF									
33	ISHARES INTERMEDIATE GOVERNMENT/CREDIT	115.55	3,813	103.91	3,429	0.04	NA		
21,539	VANGUARD SHORT-TERM BOND ETF	81.12	1,747,222	76.14	1,639,979	17.99	NA		
13,399	VANGUARD SHORT-TERM TIPS ETF	48.58	650,857	47.53	636,854	6.99	0		
			2,401,892		2,280,263	25.02			

Portfolio Appraisal

NORTHWEST ARCTIC BOROUGH CONTINGENCY RESERVE #6601

May 31, 2023



**ALASKA PERMANENT
CAPITAL MANAGEMENT**
Registered Investment Adviser

Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
INTERNATIONAL FIXED INCOME FUNDS/ETF									
9,523	VANGUARD TOTAL INTL BOND ETF	54.05	514,736	48.95	466,151	5.11	NA		
HIGH YIELD FIXED INCOME									
1,780	SPDR PORTFOLIO HIGH YIELD BO	23.02	40,979	22.53	40,103	0.44			
114,489	VANGUARD HI YLD CORP-ADM	5.86	670,653	5.18	593,054	6.51	0		
			711,632		633,157	6.95			
INTERNATIONAL EQUITY FUNDS/ETF									
5,515	ISHARES ETF CORE MSCI EAFE	60.58	334,094	66.03	364,155	3.99	NA		
DOMESTIC LARGE CAP EQUITY FUNDS/ETF									
3,337	SPDR S&P 500 ETF	274.21	915,046	417.85	1,394,365	15.30	NA		
REAL ESTATE & INFRASTRUCTURE									
3,489	FLEXSHAR STX GLOBAL BROAD INF ETF	49.82	173,827	50.66	176,753	1.94	NA		
1,025	JPMORGAN BETABUILDERS MSCI US REIT ETF	80.77	82,788	81.17	83,199	0.91	NA		
			256,615		259,952	2.85			
DOMESTIC SMALL CAP EQUITY FUNDS/ETF									
1,262	ISHARES S&P SMALLCAP 600 INDEX ETF	93.10	117,491	92.43	116,647	1.28	NA		
2,526	PACER US SMALL CAP CASH COWS	35.43	89,495	36.59	92,426	1.01	NA		
			206,985		209,073	2.29			
U.S. TREASURY									
15,000	US TREASURY NOTES 1.625% Due 10-31-23	99.41	14,911	98.47	14,770	0.16	244	21	5.38
30,000	US TREASURY NOTE 3.000% Due 06-30-24	99.79	29,936	97.74	29,321	0.32	900	378	5.17
20,000	US TREASURY NOTES 0.375% Due 08-15-24	99.49	19,898	94.64	18,927	0.21	75	22	5.00
40,000	US TREASURY NOTE 1.125% Due 01-15-25	99.41	39,762	94.49	37,797	0.41	450	170	4.69
20,000	US TREASURY NOTE 2.875% Due 06-15-25	97.61	19,522	97.04	19,409	0.21	575	265	4.41
190,000	US TREASURY NOTES 2.000% Due 08-15-25	97.70	185,633	95.16	180,812	1.98	3,800	1,113	4.32
15,000	US TREASURY NOTES 0.375% Due 12-31-25	97.78	14,667	90.94	13,642	0.15	56	24	4.10

Portfolio Appraisal

NORTHWEST ARCTIC BOROUGH CONTINGENCY RESERVE #6601

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
40,000	US TREASURY NOTES 0.750% Due 03-31-26	99.51	39,803	91.27	36,506	0.40	300	51	4.04
60,000	US TREASURY N/B 3.625% Due 05-15-26	98.17	58,901	98.84	59,302	0.65		100	4.05
10,000	US TREASURY NOTES 2.250% Due 02-15-27	96.95	9,695	94.24	9,424	0.10	225	66	3.93
20,000	US TREASURY NOTE 3.250% Due 06-30-27	100.53	20,105	97.57	19,515	0.21	650	273	3.90
20,000	US TREASURY NOTES 0.375% Due 07-31-27	95.15	19,030	86.61	17,321	0.19	75	25	3.89
65,000	US TREASURY NOTES 0.375% Due 09-30-27	99.04	64,373	86.22	56,042	0.61	244	41	3.86
35,000	US TREASURY NOTES 2.250% Due 11-15-27	96.45	33,759	93.55	32,743	0.36	787	36	3.84
50,000	US TREASURY NOTES 0.625% Due 11-30-27	98.55	49,277	86.80	43,402	0.48	312	1	3.85
55,000	US TREASURY NOTES 3.875% Due 12-31-27	101.70	55,935	100.15	55,081	0.60	2,131	890	3.84
20,000	US TREASURY NOTES 3.500% Due 01-31-28	100.11	20,023	98.64	19,728	0.22	700	234	3.82
20,000	US TREASURY NOTES 2.750% Due 02-15-28	98.99	19,798	95.41	19,081	0.21	550	161	3.82
60,000	US TREASURY N/B 3.500% Due 04-30-28	97.78	58,666	98.73	59,236	0.65	2,100	177	3.79
15,000	US TREASURY NOTES 2.875% Due 04-30-29	96.88	14,532	95.27	14,291	0.16	431	37	3.77
20,000	US TREASURY NOTE 3.250% Due 06-30-29	100.52	20,105	97.21	19,442	0.21	650	273	3.77
10,000	US TREASURY NOTES 1.750% Due 11-15-29	92.23	9,223	89.11	8,911	0.10	175	8	3.66
30,000	US TREASURY NOTES 3.875% Due 12-31-29	102.63	30,790	100.78	30,233	0.33	1,162	485	3.74
35,000	US TREASURY NOTES 1.500% Due 02-15-30	96.07	33,624	87.07	30,476	0.33	525	154	3.69
25,000	US TREASURY NOTES 0.625% Due 05-15-30	76.82	19,206	81.30	20,324	0.22	156	7	3.70
35,000	US TREASURY NOTE 0.625% Due 08-15-30	95.41	33,393	80.88	28,309	0.31	219	64	3.67
20,000	US TREASURY NOTE 1.375% Due 11-15-31	94.96	18,992	83.61	16,722	0.18	275	13	3.64

Portfolio Appraisal

NORTHWEST ARCTIC BOROUGH CONTINGENCY RESERVE #6601

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
30,000	US TREASURY NOTES 1.875% Due 02-15-32	91.12	27,336	86.91	26,072	0.29	562	165	3.64
30,000	US TREASURY NOTE 2.875% Due 05-15-32	98.96	29,689	94.07	28,222	0.31	862	40	3.66
90,000	US TREASURY N/B 3.500% Due 02-15-33 Accrued Interest	99.90	89,910	98.81	88,932	0.98	3,150	922	3.65
					6,217	0.07			
			1,100,493		1,060,212	11.63		6,217	
CASH AND CASH EQUIVILENTS									
	CASH PAYABLE		-14,855		-14,855	-0.16	NA		
	DIVIDEND ACCRUAL		3,020		3,020	0.03			
	FEDERATED GOVERNMENT OBLIGATIONS INSTITUTI		325,767		325,767	3.57			
			313,932		313,932	3.44			
TOTAL PORTFOLIO			9,010,721		9,115,523	100	51,365	12,655	

**PERFORMANCE HISTORY
GROSS OF FEES
Northwest Arctic Borough Cont Reserve #6601
1915660**



Time Period	Percent Return Per Period																	
	Total Account	Blend	Fixed Income	BLOOMBERG INT G/C BENCH	Domestic Large Cap Equity	S&P 500 LARGE CAPS BENCH	Domestic Mid Cap Equity	S&P 400 MIDCAP BENCH	Domestic Small Cap Equity	S & P 600 SMALL CAPS BENCH	Int'l Equity	MSCI EAFE Index	Emerging Market Equity	MSCI EMERGING MARKET BENCH	Real Estate	S&P US REIT BENCH	Diversified Alternatives	BB COMMODITY
05-31-22 to 06-30-22	-3.52	-3.81	-1.89	-1.11	-5.19	-8.25	-9.63	-9.62	-8.47	-8.55	-7.87	-9.28	-5.56	-6.65	-6.82	-7.33	0.00	-10.77
06-30-22 to 07-31-22	3.63	3.76	2.14	1.63	5.98	9.22	10.92	10.85	9.93	10.01	4.76	4.98	0.00	-0.25	5.61	8.97	0.00	4.26
07-31-22 to 08-31-22	-2.34	-2.29	-2.01	-2.00	-2.64	-4.08	-3.17	-3.10	-4.32	-4.39	-6.10	-4.75	-1.22	0.42	-4.55	-5.94	0.00	0.09
08-31-22 to 09-30-22	-4.55	-4.58	-2.52	-2.67	-6.78	-9.21	-9.21	-9.19	-9.83	-9.88	-9.14	-9.35	-11.31	-11.72	-11.44	-12.16	0.00	-8.11
09-30-22 to 10-31-22	2.66	2.49	0.27	-0.44	6.03	8.10	10.61	10.52	12.31	12.37	4.91	5.38	-1.47	-3.10	5.48	4.92	0.00	1.99
10-31-22 to 11-30-22	3.24	3.29	1.78	2.17	4.05	5.59	5.97	6.12	4.00	4.17	12.28	11.26	14.66	14.83	7.70	5.76	0.00	2.74
11-30-22 to 12-31-22	-1.75	-1.68	-0.42	-0.18	-3.79	-5.76	-5.47	-5.54	-6.68	-6.71	-1.36	0.08	-2.49	-1.41	-4.01	-5.14	0.00	-2.45
12-31-22 to 01-31-23	3.19	3.43	1.64	1.87	3.55	6.28	9.09	9.23	10.58	9.49	8.81	8.10	8.90	7.90	7.07	10.61	0.00	-0.49
01-31-23 to 02-28-23	-1.79	-1.65	-1.28	-1.80	-2.08	-2.44	-1.89	-1.81	-1.11	-1.23	-3.06	-2.09	-6.92	-6.48	-4.78	-4.77	0.00	-4.70
02-28-23 to 03-31-23	1.63	1.63	1.93	2.29	1.95	3.67	-3.18	-3.21	-4.26	-5.16	2.80	2.48	3.04	3.03	1.22	-2.48	0.00	-0.21
03-31-23 to 04-30-23	0.56	0.69	0.45	0.61	0.85	1.56	-0.78	-0.78	-2.77	-2.78	2.87	2.82	-0.43	-1.13	2.11	0.78	0.00	-0.75
04-30-23 to 05-31-23	-0.96	-0.83	-0.52	-0.74	-0.71	0.43	-3.22	-3.19	-1.45	-1.75	-3.98	-4.23	-2.06	-1.68	-4.37	-3.06	0.00	-5.64
Date to Date																		
05-31-22 to 05-31-23	-0.43	-0.03	-0.57	-0.53	0.20	2.92	-2.85	-2.63	-5.07	-7.26	2.47	3.06	-7.15	-8.49	-8.59	-11.86	0.00	-22.48

Portfolio Appraisal

NWAB GF Sustainability #6604

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
ALTERNATIVE BETA									
197,336	BLCKRCK SYST MULTI-STR-INST	10.22	2,017,016	9.58	1,890,475	3.97	NA		
56,776	CORE ALTERNATIVE ETF	30.54	1,733,988	27.68	1,571,560	3.30	NA		
24,671	IQ HEDGE MULTI-STRAT TRACKER	29.19	720,200	29.17	719,653	1.51	NA		
			4,471,205		4,181,688	8.79			
COMMODITIES									
17,702	ISHARES BB ROLL SELECT COMMODITY ETF	51.20	906,353	48.08	851,112	1.79	NA		
DOMESTIC MID CAP EQUITY FUNDS/ETF									
13,709	ISHARES CORE S&P MIDCAP 400 ETF	225.26	3,088,120	240.22	3,293,176	6.92	NA		
EMERGING MARKET FUNDS/ETF									
18,995	ISHARES ETF CORE MSCI EMERGING MKTS	54.43	1,033,821	47.58	903,782	1.90	NA		
DOMESTIC FIXED INCOME FUNDS/ETF									
96,317	ISHARES INTERMEDIATE GOVERNMENT/CREDIT	109.06	10,504,744	103.91	10,008,299	21.03	NA		
24,970	VANGUARD SHORT-TERM BOND ETF	78.71	1,965,346	76.14	1,901,216	3.99	NA		
57,431	VANGUARD SHORT-TERM TIPS ETF	48.62	2,792,311	47.53	2,729,695	5.74	0		
			15,262,401		14,639,211	30.76			
INTERNATIONAL FIXED INCOME FUNDS/ETF									
49,759	VANGUARD TOTAL INTL BOND ETF	52.73	2,623,786	48.95	2,435,703	5.12	NA		
HIGH YIELD FIXED INCOME									
1,721	SPDR PORTFOLIO HIGH YIELD BO	25.19	43,345	22.53	38,774	0.08			
540,205	VANGUARD HI YLD CORP-ADM	5.63	3,043,555	5.18	2,798,263	5.88	0		
			3,086,900		2,837,038	5.96			
INTERNATIONAL EQUITY FUNDS/ETF									
36,020	ISHARES ETF CORE MSCI EAFE	64.76	2,332,830	66.03	2,378,401	5.00	NA		
DOMESTIC LARGE CAP EQUITY FUNDS/ETF									
25,479	SPDR S&P 500 ETF	355.99	9,070,318	417.85	10,646,400	22.37	NA		
REAL ESTATE & INFRASTRUCTURE									
36,464	FLEXSHAR STX GLOBAL BROAD INF ETF	52.83	1,926,367	50.66	1,847,266	3.88	NA		
10,253	JPMORGAN BETABUILDERS MSCI US REIT ETF	88.10	903,308	81.17	832,236	1.75	NA		

Portfolio Appraisal

NWAB GF Sustainability #6604

May 31, 2023



ALASKA PERMANENT
CAPITAL MANAGEMENT

Registered Investment Adviser

Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
11,694	PACER INDUSTRIAL REAL ESTATE ETF	41.15	481,206	39.35	460,159	0.97	NA		
			3,310,880		3,139,661	6.60			
DOMESTIC SMALL CAP EQUITY FUNDS/ETF									
6,680	ISHARES S&P SMALLCAP 600 INDEX ETF	92.00	614,587	92.43	617,432	1.30	NA		
12,970	PACER US SMALL CAP CASH COWS	37.70	488,931	36.59	474,572	1.00	NA		
			1,103,518		1,092,005	2.29			
CASH AND CASH EQUIVILENTS									
	DIVIDEND ACCRUAL		14,248		14,248	0.03			
	FEDERATED GOVERNMENT OBLIGATIONS INSTITUTI		1,179,194		1,179,194	2.48			
			1,193,443		1,193,443	2.51			
TOTAL PORTFOLIO			47,483,574		47,591,619	100	0	0	

PERFORMANCE HISTORY
GROSS OF FEES
NWAB GF Sustainability #6604



Time Period	Percent Return Per Period																	
	Total Account	BLEND	Fixed Income	BLOOMBERG INT G/C BENCH	Domestic Large Cap Equity	S&P 500 LARGE CAPS BENCH	Domestic Mid Cap Equity	S&P 400 MIDCAP BENCH	Domestic Small Cap Equity	S & P 600 SMALL CAPS BENCH	Int'l Equity	MSCI EAFE Index	Emerging Market Equity	MSCI EMERGING MARKET BENCH	Real Estate	S&P US REIT BENCH	Diversified Alternatives	BB COMMODITY
05-31-22 to 06-30-22	-4.82	-5.16	-2.08	-1.11	-5.88	-8.25	-9.63	-9.62	-8.47	-8.55	-8.05	-9.28	-5.56	-6.65	-6.84	-7.33	-11.48	-10.77
06-30-22 to 07-31-22	4.72	5.01	2.40	1.63	6.69	9.22	10.92	10.85	9.93	10.01	4.91	4.98	0.00	-0.25	6.07	8.97	0.38	4.26
07-31-22 to 08-31-22	-2.81	-2.71	-2.33	-2.00	-2.97	-4.08	-3.17	-3.10	-4.32	-4.39	-6.09	-4.75	-1.22	0.42	-4.75	-5.94	-0.48	0.09
08-31-22 to 09-30-22	-5.94	-6.00	-2.86	-2.67	-7.34	-9.21	-9.21	-9.19	-9.83	-9.88	-9.25	-9.35	-11.31	-11.72	-11.53	-12.16	-7.30	-8.11
09-30-22 to 10-31-22	3.92	3.77	0.38	-0.44	6.49	8.10	10.61	10.52	12.31	12.37	5.10	5.38	-1.47	-3.10	5.38	4.92	4.73	1.99
10-31-22 to 11-30-22	3.65	3.65	2.10	2.17	4.40	5.59	5.97	6.12	4.00	4.17	12.47	11.26	14.66	14.83	7.43	5.76	4.96	2.74
11-30-22 to 12-31-22	-1.90	-1.90	-0.79	-0.18	-3.87	-5.76	-5.18	-5.54	-6.37	-6.71	-1.44	0.08	-2.46	-1.41	-4.00	-5.14	-2.82	-2.45
12-31-22 to 01-31-23	3.42	3.42	1.43	1.87	3.70	6.28	9.16	9.23	9.68	9.49	8.13	8.10	8.05	7.90	7.15	10.61	1.57	-0.49
01-31-23 to 02-28-23	-2.04	-2.04	-1.11	-1.80	-2.21	-2.44	-1.92	-1.81	-1.26	-1.23	-3.05	-2.09	-6.93	-6.48	-4.76	-4.77	-5.18	-4.70
02-28-23 to 03-31-23	1.52	1.50	2.10	2.29	2.33	3.67	-3.18	-3.21	-4.27	-5.16	2.80	2.48	3.04	3.03	0.66	-2.48	-0.39	-0.21
03-31-23 to 04-30-23	0.63	0.76	0.46	0.61	1.01	1.56	-0.78	-0.78	-2.77	-2.78	2.87	2.82	-0.43	-1.13	1.61	0.78	-0.78	-0.75
04-30-23 to 05-31-23	-1.27	-1.16	-0.53	-0.74	-0.45	0.43	-3.22	-3.19	-1.45	-1.75	-3.98	-4.23	-2.06	-1.68	-4.23	-3.06	-5.92	-5.64
Date to Date																		
05-31-22 to 05-31-23	-1.61	-1.59	-1.01	-0.53	0.70	2.92	-2.50	-2.63	-5.69	-7.26	1.96	3.06	-7.86	-8.49	-9.53	-11.86	-21.59	-22.48

Portfolio Appraisal

NWAB VIF SUSTAINABILITY #6605

May 31, 2023



Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
ALTERNATIVE BETA									
126,946	BLCKRCK SYST MULTI-STR-INST	10.33	1,311,012	9.58	1,216,144	3.97	NA		
36,524	CORE ALTERNATIVE ETF	30.39	1,109,875	27.68	1,010,984	3.30	NA		
15,874	IQ HEDGE MULTI-STRAT TRACKER	29.19	463,397	29.17	463,045	1.51	NA		
			2,884,285		2,690,173	8.79			
COMMODITIES									
11,388	ISHARES BB ROLL SELECT COMMODITY ETF	50.24	572,152	48.08	547,535	1.79	NA		
DOMESTIC MID CAP EQUITY FUNDS/ETF									
8,819	ISHARES CORE S&P MIDCAP 400 ETF	202.06	1,782,000	240.22	2,118,500	6.92	NA		
EMERGING MARKET FUNDS/ETF									
12,220	ISHARES ETF CORE MSCI EMERGING MKTS	55.17	674,151	47.58	581,428	1.90	NA		
DOMESTIC FIXED INCOME FUNDS/ETF									
61,961	ISHARES INTERMEDIATE GOVERNMENT/CREDIT	109.74	6,799,792	103.91	6,438,368	21.03	NA		
16,063	VANGUARD SHORT-TERM BOND ETF	79.54	1,277,642	76.14	1,223,037	3.99	NA		
36,945	VANGUARD SHORT-TERM TIPS ETF	48.72	1,799,859	47.53	1,755,996	5.74	0		
			9,877,292		9,417,400	30.76			
INTERNATIONAL FIXED INCOME FUNDS/ETF									
32,011	VANGUARD TOTAL INTL BOND ETF	53.59	1,715,330	48.95	1,566,938	5.12	NA		
HIGH YIELD FIXED INCOME									
1,426	SPDR PORTFOLIO HIGH YIELD BO	25.19	35,915	22.53	32,128	0.10			
346,133	VANGUARD HI YLD CORP-ADM	5.74	1,987,037	5.18	1,792,969	5.86	0		
			2,022,952		1,825,096	5.96			
INTERNATIONAL EQUITY FUNDS/ETF									
23,172	ISHARES ETF CORE MSCI EAFE	64.26	1,489,030	66.03	1,530,047	5.00	NA		
DOMESTIC LARGE CAP EQUITY FUNDS/ETF									
16,391	SPDR S&P 500 ETF	317.41	5,202,713	417.85	6,848,979	22.37	NA		
REAL ESTATE & INFRASTRUCTURE									
23,458	FLEXSHAR STX GLOBAL BROAD INF ETF	51.75	1,213,976	50.66	1,188,382	3.88	NA		
6,596	JPMORGAN BETABUILDERS MSCI US REIT ETF	86.73	572,049	81.17	535,397	1.75	NA		

Portfolio Appraisal

NWAB VIF SUSTAINABILITY #6605

May 31, 2023



ALASKA PERMANENT
CAPITAL MANAGEMENT

Registered Investment Adviser

Quantity	Security	Average Cost	Total Average Cost	Price	Market Value	Pct. Assets	Annual Income	Accrued Interest	Yield to Maturity
7,523	PACER INDUSTRIAL REAL ESTATE ETF	41.15	309,570	39.35	296,030	0.97	NA		
			2,095,595		2,019,810	6.60			
DOMESTIC SMALL CAP EQUITY FUNDS/ETF									
4,297	ISHARES S&P SMALLCAP 600 INDEX ETF	85.57	367,704	92.43	397,172	1.30	NA		
8,344	PACER US SMALL CAP CASH COWS	37.71	314,629	36.59	305,307	1.00	NA		
			682,333		702,479	2.29			
CASH AND CASH EQUIVILENTS									
	DIVIDEND ACCRUAL		9,130		9,130	0.03			
	FEDERATED GOVERNMENT OBLIGATIONS INSTITUTI		758,223		758,223	2.48			
			767,353		767,353	2.51			
TOTAL PORTFOLIO			29,765,186		30,615,738	100	0	0	

**PERFORMANCE HISTORY
GROSS OF FEES
NWAB VIF SUSTAINABILITY #6605**



Time Period	Percent Return Per Period																	
	Total Account	BLEND	Fixed Income	BLOOMBERG INT G/C BENCH	Domestic Large Cap Equity	S&P 500 LARGE CAPS BENCH	Domestic Mid Cap Equity	S&P 400 MIDCAP BENCH	Domestic Small Cap Equity	S & P 600 SMALL CAPS BENCH	Int'l Equity	MSCI EAFE Index	Emerging Market Equity	MSCI EMERGING MARKET BENCH	Real Estate	S&P US REIT BENCH	Diversified Alternatives	BB COMMODITY
05-31-22 to 06-30-22	-4.82	-5.16	-2.08	-1.11	-5.88	-8.25	-9.63	-9.62	-8.47	-8.55	-8.05	-9.28	-5.56	-6.65	-6.84	-7.33	-11.48	-10.77
06-30-22 to 07-31-22	4.72	5.01	2.40	1.63	6.69	9.22	10.92	10.85	9.93	10.01	4.91	4.98	0.00	-0.25	6.07	8.97	0.38	4.26
07-31-22 to 08-31-22	-2.81	-2.71	-2.33	-2.00	-2.97	-4.08	-3.17	-3.10	-4.32	-4.39	-6.09	-4.75	-1.22	0.42	-4.75	-5.94	-0.48	0.09
08-31-22 to 09-30-22	-5.94	-6.00	-2.86	-2.67	-7.34	-9.21	-9.21	-9.19	-9.83	-9.88	-9.25	-9.35	-11.31	-11.72	-11.53	-12.16	-7.30	-8.11
09-30-22 to 10-31-22	3.92	3.77	0.38	-0.44	6.49	8.10	10.61	10.52	12.31	12.37	5.10	5.38	-1.47	-3.10	5.38	4.92	4.73	1.99
10-31-22 to 11-30-22	3.95	3.95	2.10	2.17	4.40	5.59	5.97	6.12	4.00	4.17	12.47	11.26	14.66	14.83	7.43	5.76	4.96	2.74
11-30-22 to 12-31-22	-2.32	-2.32	-0.71	-0.18	-4.04	-5.76	-5.36	-5.54	-6.57	-6.71	-1.44	0.08	-2.48	-1.41	-4.11	-5.14	-3.01	-2.45
12-31-22 to 01-31-23	3.75	3.75	1.57	1.87	3.85	6.28	9.24	9.23	9.80	9.49	8.25	8.10	8.41	7.90	7.25	10.61	1.56	-0.49
01-31-23 to 02-28-23	-2.09	-2.09	-1.20	-1.80	-2.18	-2.44	-1.88	-1.81	-1.26	-1.23	-3.04	-2.09	-6.92	-6.48	-4.75	-4.77	-5.29	-4.70
02-28-23 to 03-31-23	1.51	1.50	2.08	2.29	2.33	3.67	-3.18	-3.21	-4.27	-5.16	2.80	2.48	3.04	3.03	0.66	-2.48	-0.39	-0.21
03-31-23 to 04-30-23	0.63	0.76	0.46	0.61	1.01	1.56	-0.78	-0.78	-2.77	-2.78	2.87	2.82	-0.43	-1.13	1.61	0.78	-0.78	-0.75
04-30-23 to 05-31-23	-1.27	-1.16	-0.53	-0.74	-0.45	0.43	-3.22	-3.19	-1.45	-1.75	-3.98	-4.23	-2.06	-1.68	-4.23	-3.06	-5.92	-5.64
Date to Date																		
05-31-22 to 05-31-23	-1.49	-1.46	-0.89	-0.53	0.71	2.92	-2.58	-2.63	-5.79	-7.26	2.07	3.06	-7.56	-8.49	-9.54	-11.86	-21.85	-22.48