Institute of Social and Economic Research
University of Alaska Anchorage
Web Notes

Maximum Sustainable Yield: FY 2014 Update

by Scott Goldsmith

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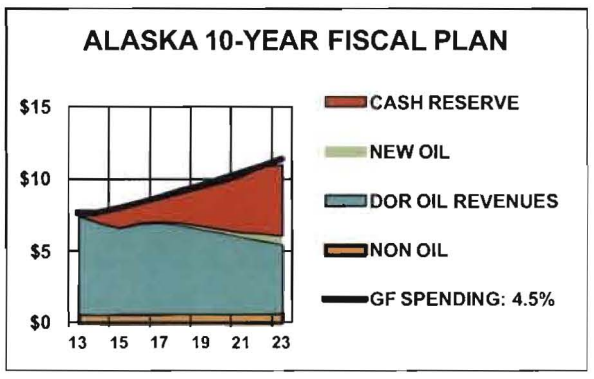
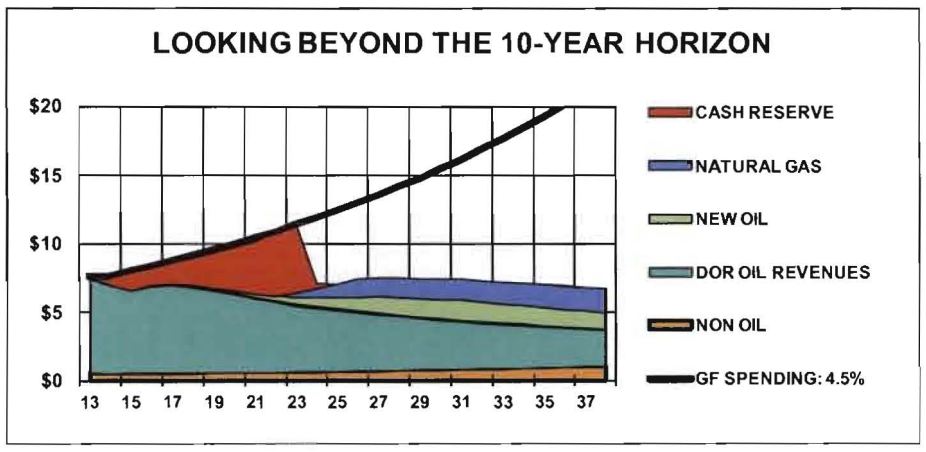
In fiscal year 2014, Alaska's state government can afford to spend about $5.5 billion. That's an estimate of the level of Unrestricted General Fund spending the state can sustain over the long run, based on the current petroleum nest egg of about $149 billion—a combination of state financial assets (the Permanent Fund and cash reserves) and the value of petroleum still in the ground.

The size of that nest egg fluctuates, depending on the state's forecast of petroleum revenues, earnings on investments, and other factors. This Web Note presents the latest in a series of estimates of the maximum amount the state can spend and still stay on a sustainable budget path.



Right now, the state is on a path it can't sustain. Growing spending and falling revenues are creating a widening fiscal gap. In its 10-year fiscal plan, the state Office of Management and Budget (OMB) projects that spending the cash reserves might fill this gap until 2023, as the adjacent figure shows[i]. But what happens after 2023?

Reasonable assumptions about potential new revenue sources suggest we do not have enough cash in reserves to avoid a severe fiscal crunch soon after 2023, and with that fiscal crisis will come an economic crash. The figure on the right shows the growing General Fund fiscal gap—even assuming new revenues from natural gas production and more oil production—if spending increases at a rate of 4.5% annually.



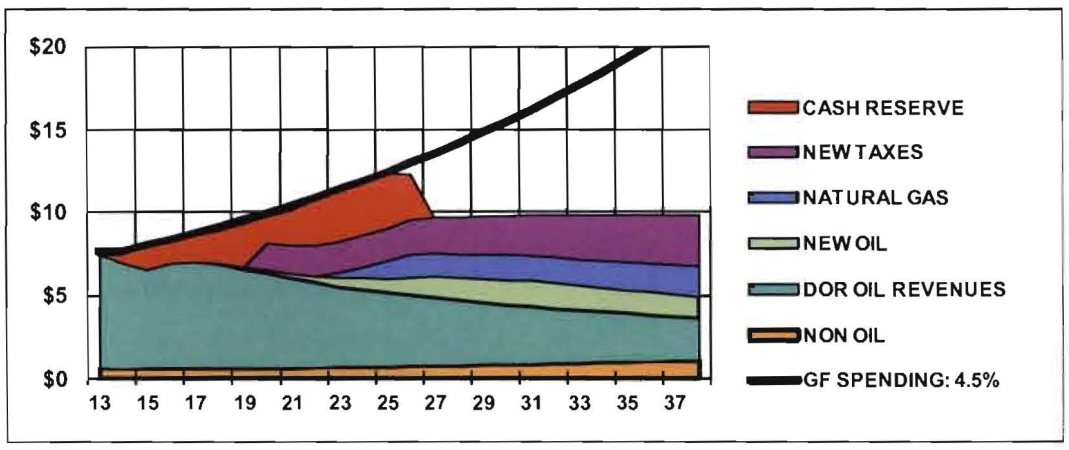
What can the state do to avoid a major fiscal and economic crisis? The answer is to save more and restrict the rate of spending growth. All revenues above the sustainable spending level of $5.5 billion—including Permanent Fund income, except the share that funds the dividend—would be channeled into savings.

If Alaska had $117 billion in cash reserves and the Permanent Fund by 2023, the state would be on the path to sustainable spending far into the future. But as the adjacent figure shows, that's twice what the state has in financial assets today. So the state needs to sharply step up its savings rate, starting now.

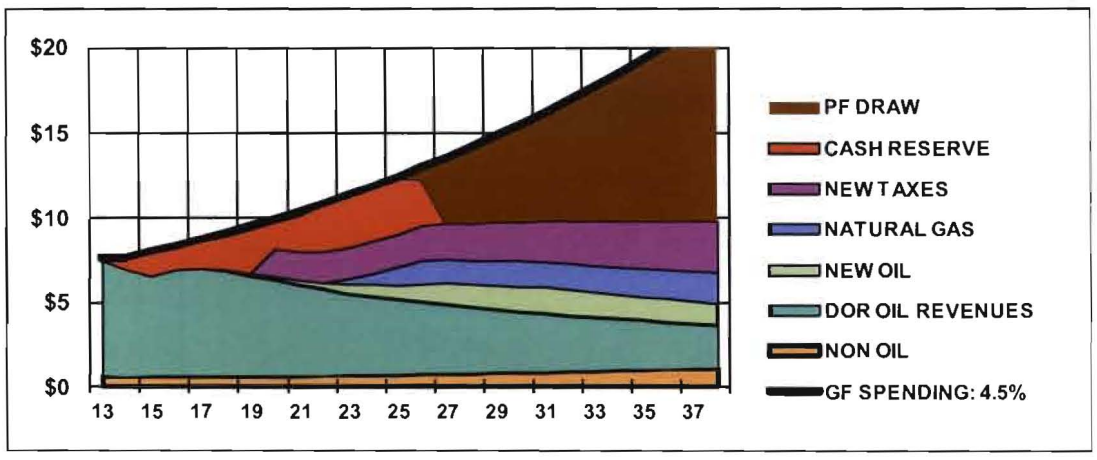
This research is part of ISER's *Investing for Alaska's Future* research initiative, funded by a grant from Northrim Bank.

Northrim Bank

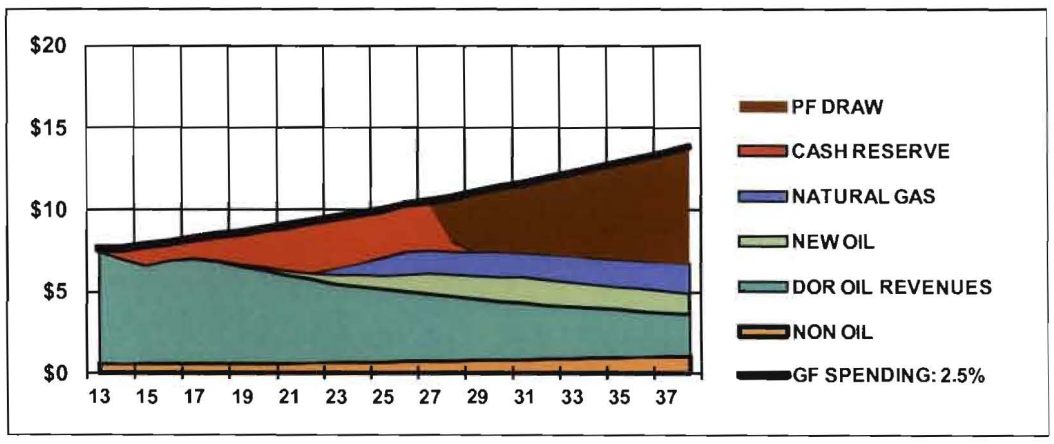
The graphs below show additional evidence of why the state needs to save more and restrict spending. New broad-based income and sales taxes (purple) would postpone but not eliminate the fiscal crunch.



Even using the entire Permanent Fund would not avoid the crunch, with the fund (brown) running out soon after 2038.



Alternatively, holding growth of the budget to the rate of inflation would reduce the size of the crunch when it arrived, but postpone it for only 5 years.[ii]



What is Maximum Sustainable Yield (MSY)?

Maximum sustainable yield is the amount the state can spend each year from its petroleum endowment, or nest egg, and still sustain the value of that nest egg for future generations. The nest egg is a combination of the state's financial assets and the estimated value of petroleum still in the ground. The amount the state can safely spend each year depends on the size of the nest egg, the return it can achieve through prudent management of that nest egg, and the time over which it will need the nest egg to sustain public spending.

The table below shows that if the petroleum nest egg has a value of $149 billion, if it can be managed to generate a 5% return (net of inflation), and if it is to increase over time to account for population growth, the maximum sustainable yield would be $5.95 billion.

MAXIMUM SUSTAINABLE YIELD CALCULATION FOR FY 2014

TOTAL NEST EGG (Billion)	**$148.7**
Financial Assets	$60
Petroleum in the Ground	$88.7
Rate of Earnings (net of inflation)	5%
Draw Rate (Earnings net population growth)	4%
MSY FY2014 (Billion)	**$5.95**

Currently, spending from the petroleum nest egg goes to the General Fund and the Permanent Fund dividend. Constrained to no more than the maximum sustainable yield of $5.95 billion, the split would be $4.99 billion to the General Fund and $.96 billion to the dividend (based on the current formula for determining dividends). Including the $.540 billion of non-petroleum revenues in the General Fund, the maximum sustainable yield for the General Fund would be $5.53 billion.

GENERAL FUND MAXIMUM SUSTAINABLE YIELD SPENDING FOR FY2014

1	**MSY FY2014 (Billion) (2+3)**	**$5.95**
2	PFD	$.96
3	GF	$4.99
4	Non petroleum revenues	$.54
5	**GENERAL FUND MSY FY2014 (Billion) (3+4)**	**$5.53**

The difference between the actual General Fund appropriation and the maximum sustainable yield is the "fiscal burden" passed to a future generation of Alaskans. It is the amount future generations will pay to cover current spending above the sustainable level. The "nest egg deficit" is amount the nest egg falls short of being able to support a sustainable spending path.

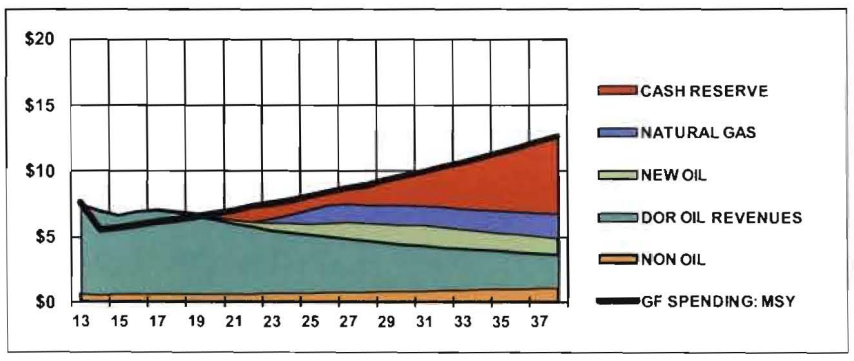
For example, as shown below, if FY 2014 General Fund spending were to be $7 billion, the fiscal burden on future generations would be $1.5 billion. Furthermore, it would take an additional $37.5 billion in the petroleum nest egg for that level of spending to be sustainable.

FISCAL BURDEN AND NEST EGG DEFICIT AT DIFFERENT GF SPENDING LEVELS

FY2014 GF Spending (Billion)	$6	$6.5	$7.0	$7.5	$8.0
Fiscal Burden (Billion)	$.5	$1.0	$1.5	$2.0	$2.5
Nest Egg Deficit (Billion)	$12.5	$25	$37.5	$50	$62.5
Fiscal Burden and Nest Egg Deficit assume future budget growth constrained to be the combined rate of inflation and population increase.					

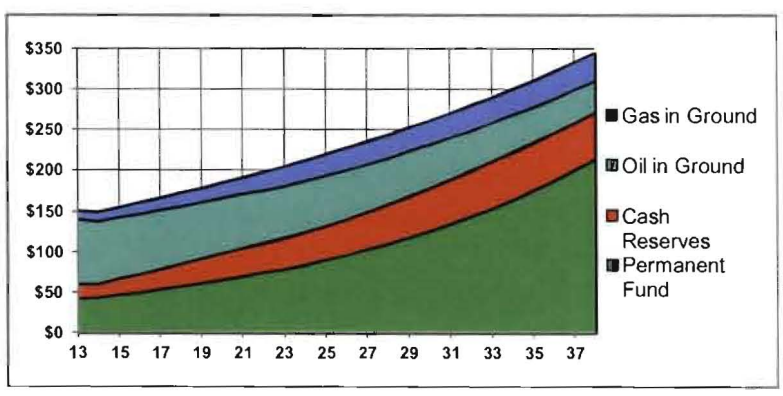
In contrast to business-as-usual, there is no fiscal cliff associated with the maximum sustainable yield strategy. Enhanced financial resources, combined with new revenues from long-term petroleum developments, would be sufficient to cover General Fund spending growing with population.

MAXIMUM SUSTAINABLE YIELD: GENERAL FUND SPENDING (BILLION $)



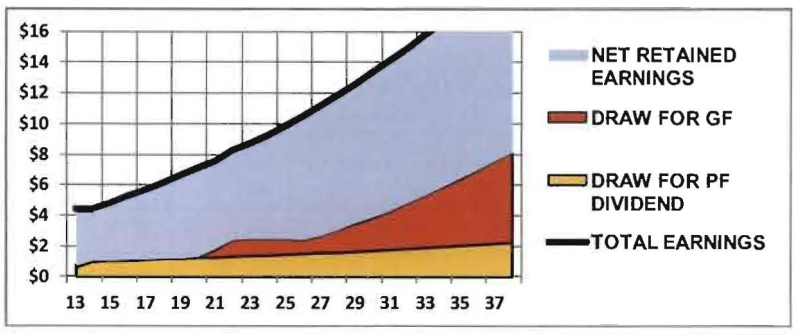
The petroleum nest egg would also increase at the combined rate of inflation and population. Over time, the declining value of oil and gas in the ground would be replaced by the growing value of financial assets.

MAXIMUM SUSTAINABLE YIELD: COMPOSITION OF THE NEST EGG (BILLION $)



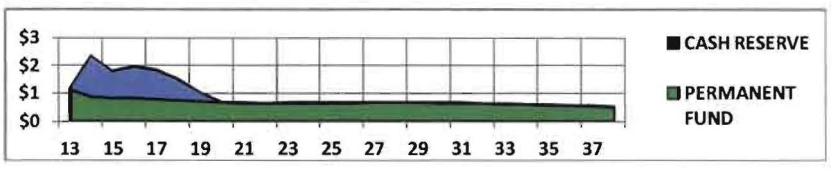
On this sustainable path the combined earnings of all the financial assets (solid black line) would initially all be reinvested, except the amount set aside to pay the Permanent Fund dividend, which would increase with inflation and population (orange)[iii]. The financial assets would gradually become the most important source of revenues for the General Fund (red)[iv]. Retained earnings (light blue) would offset inflation and population growth.

MAXIMUM SUSTAINABLE YIELD: USE OF FINANCIAL EARNINGS (BILLION $)



Financial account deposits would transform depleting petroleum revenues into a sustainable asset.

MAXIMUM SUSTAINABLE YIELD: DEPOSITS IN FINANCIAL ACCOUNTS (BILLION $)



What's In the Nest Egg?

The nest egg consists of financial assets accumulated from past saving of petroleum revenues as well as the current value of the estimated revenues from future petroleum production.

The current value of financial assets is easily estimated at about $60 billion, mostly in the Permanent Fund, and in cash reserves—the Constitutional Budget Reserve and the Statutory Budget Reserve.

The value of revenues from future production is $88.7 billion. We determine this value by estimating future taxes and royalties for 50 years, assuming the current fiscal structure and energy prices as well as reasonable estimates of economically recoverable reserves, both known and unknown. We convert these revenue flows to their net present value at a discount rate equal to the rate of return on financial investments. (This method is similar to monetizing the flow of revenues that assets can produce by calculating their net present value.)

The value of revenues from future production is broken into three categories—oil in known fields, unconventional and new oil, and natural gas.

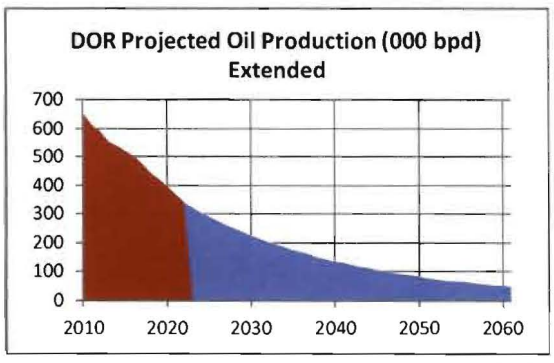
The values for these categories are modest for three reasons. Future production is likely to be more costly than current production on state lands, and production on federal lands generates no royalties directly for the state and is exempt from some state taxes. Therefore, the revenue "take" per barrel will

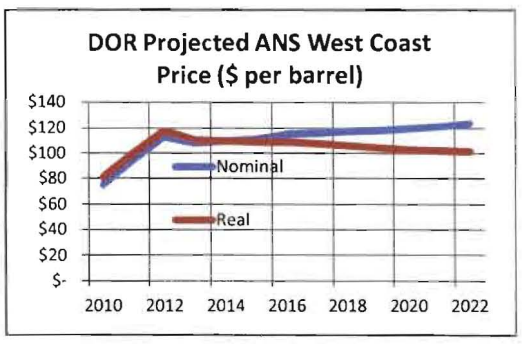
be lower than that on current production. Finally, the discounting of revenues that will not be received for many years reduces their value today.

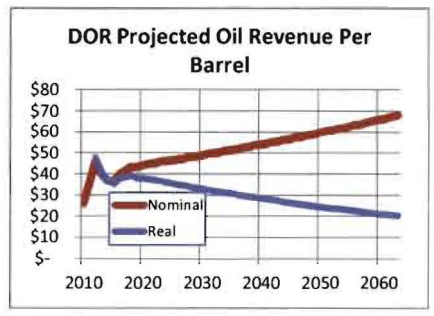
NET PRESENT VALUE: FUTURE PETROLEUM REVENUES, 50-YEAR TIME HORIZON (BILLION $)

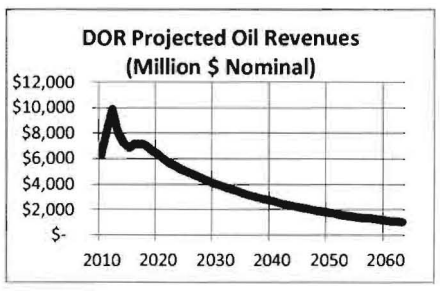
TOTAL	**$88.7**
OIL IN KNOWN FIELDS	**$67.1**
2014-2022	$43.1
2023-2063	$24.0
UNCONVENTIONAL AND NEW OIL	**$9.9**
Conventional from New Fields in Central North Slope	$4.8
Shale Oil	$1.7
Viscous and Heavy Oil	$1.7
OCS	$1.7
ANWR	0
NPRA	0
NATURAL GAS	**$11.7**

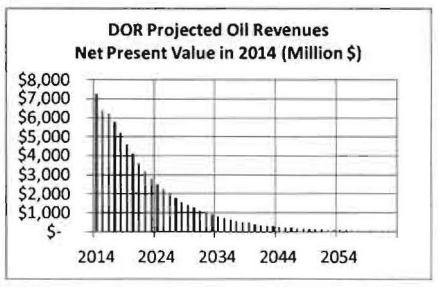
Oil in Known Fields is estimated through 2022 from the annual forecast of the Alaska Department of Revenue. This is almost entirely conventional oil on state lands, but also includes small amounts of production on federal lands (OCS and NPRA) and private lands, as well as some unconventional oil (viscous oil). After 2022, we project production to decline at 5% annually and revenue per barrel to increase at 1%—about half the rate of inflation (2.5%). Based on these assumptions, the 50-year cumulative revenues would be $168 billion (net present value of $67.1 billion), generated from production of 3.5 billion barrels of oil.









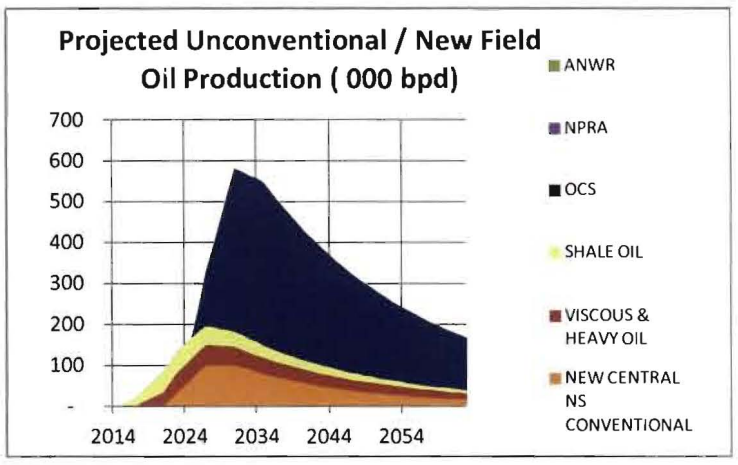


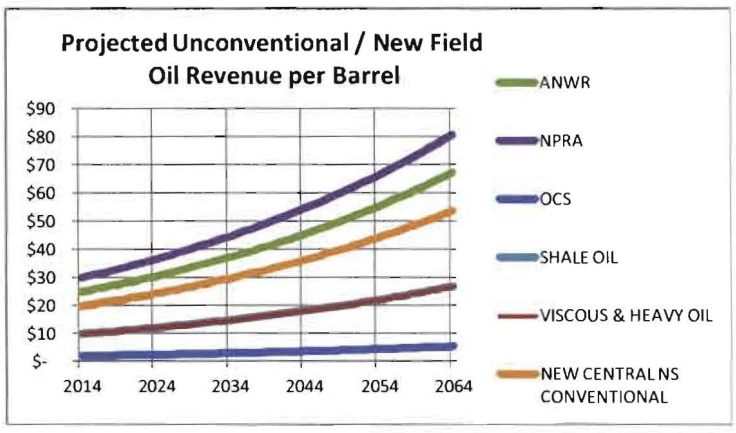
Unconventional and New Oil is divided into six categories, with revenues in each based on production and per barrel revenue—or "take"—assumptions summarized below.

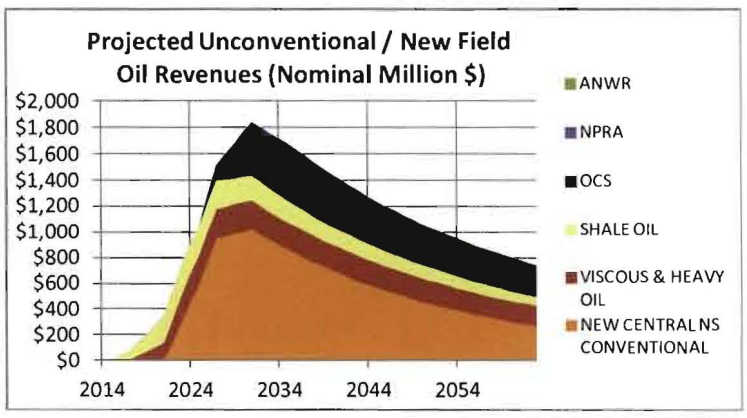
	OCS	Viscous & Heavy Oil	ANWR	NPRA	Shale Oil	New Central NS Conventional
START OF PRODUCTION	2026	2018	2200	2200	2016	2022
PEAK PRODUCTION IN BPD (000)	400	50	500	0	50	100
ANNUAL DECLINE RATE	4.0%	3.0%	5.0%	5.0%	5.0%	6.0%
REVENUE PER BARREL IN 2013	$ 2	$ 10	$ 25	$ 30	$ 10	$ 20
REVENUE PER BARREL GROWTH RATE (Nominal)	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%

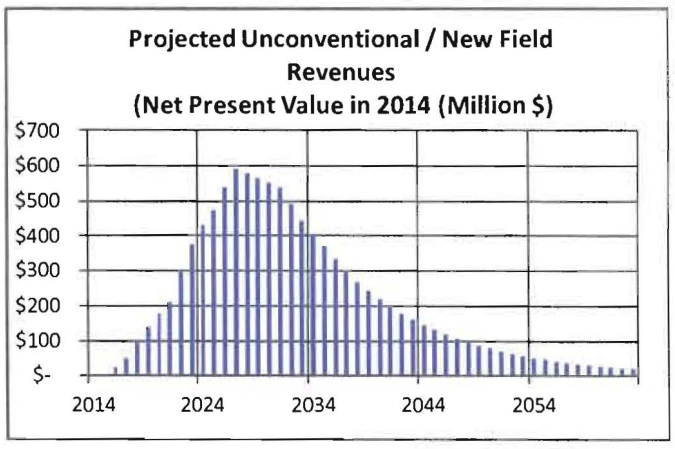
Estimated revenues assume no production from ANWR. OCS revenues exclude royalties and production taxes. And although there is no production separately indicated for NPRA, there is NPRA production, as well as a small amount of viscous oil production, built into the DOR forecast. These assumptions produce an estimate of $52 billion in revenues over the next 50 years (net present value of $9.9 billion), based on production—both on and offshore—of 5.2 billion barrels of oil.

	OCS	Viscous & Heavy Oil	ANWR	NPRA	Shale Oil	New Central NS Conventional	TOTAL
REVENUES FOR 50 YEARS (Billion $)	$ 12.4	$ 8.7	$ -	$ -	$ 6.5	$ 24.8	$ 52.3
PRODUCTION FOR 50 YEARS (Billion Barrels)	3.48	0.53	-	-	0.43	0.77	5.21

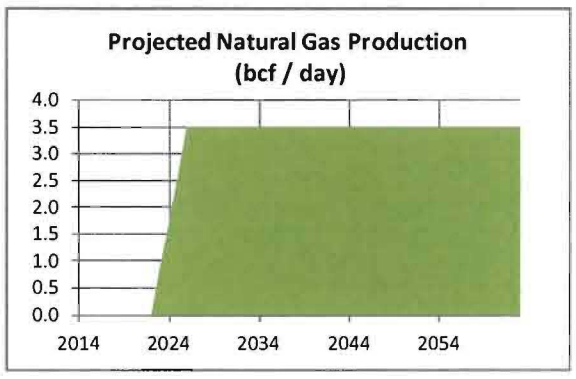

Projected Unconventional / New Field
Oil Production (000 bpd)
700
600
500
400
300
200
100
-
2014
2024
2034
2044
2054
ANWR
NPRA
OCS
SHALE OIL
VISCOUS & HEAVY OIL
NEW CENTRAL NS CONVENTIONAL

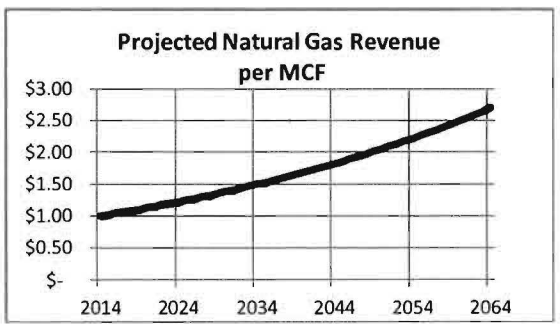

Projected Unconventional / New Field
Oil Revenue per Barrel
$90
$80
$70
$60
$50
$40
$30
$20
$10
$-
2014
2024
2034
2044
2054
2064
ANWR
NPRA
OCS
SHALE OIL
VISCOUS & HEAVY OIL
NEW CENTRAL NS CONVENTIONAL

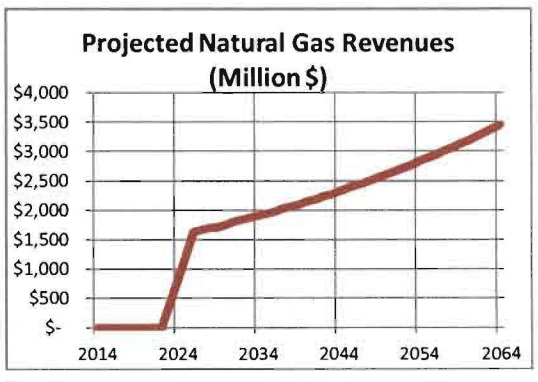

Projected Unconventional / New Field
Oil Revenues (Nominal Million $)
$2,000
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
2014
2024
2034
2044
2054
ANWR
NPRA
OCS
SHALE OIL
VISCOUS & HEAVY OIL
NEW CENTRAL NS CONVENTIONAL

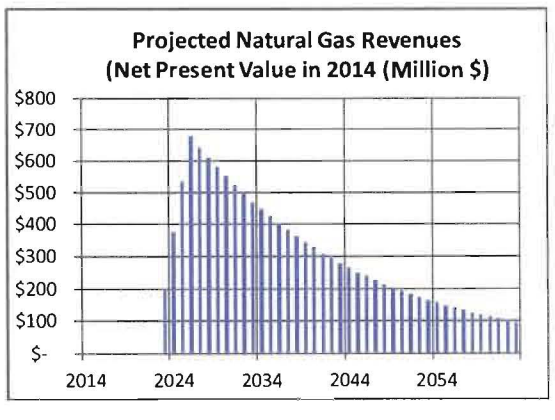

Projected Unconventional / New Field
Revenues
(Net Present Value in 2014 (Million $)
$700
$600
$500
$400
$300
$200
$100
$-
2014
2024
2034
2044
2054

Natural Gas is assumed to be monetized through a pipeline to tidewater, exporting 3.5 bcf per day starting in 2023. Because of the high cost of getting the gas to market, the netback value on the North Slope—which is the basis for taxes and royalties—is small. So the "take" at start-up is about $1.25 per mcf. The net present value of that gas production over the 50-year period is estimated at $11.7 billion.









Tracking Maximum Sustainable Yield (MSY)

The estimated size of the nest egg has fluctuated over time, but it has stayed in a range between $126 and $160 billion. Consequently, the General Fund MSY has varied between $5 billion and $6.4 billion. Part of the reason for the upward revision in the size of the nest egg during FY 2012, from $126 billion to $155 billion, was the strong recovery in value of the Permanent Fund after the financial crash. This investment performance is not likely to be duplicated in future years.

Calculation Year	Nest Egg			General Fund		Fiscal Burden	Source
	Total	Financial Assets	Petroleum in the Ground	MSY	Actual Spend		
FY2012	$126	$45	$81	$5.0	$7.0	$2.0	Feb 2011, WebNote 7 & May 2011, WebNote 8
FY2012	$155	$55	$100	$6.2	$7.0	$.8	March 2012, WebNote 10
FY2013	$160	$60	$100	$6.4	$7.6	$1.2	August 2012, WebNote 13
FY2014	$149	$60	$89	$5.5	?	?	Jan. 2013, WebNote 14

In both FY 2012 and FY 2013, actual spending exceeded the MSY, creating a fiscal burden for future generations. The nest egg estimate for FY 2014 is $11 billion lower than last year's estimate, mostly because the Alaska Department of Revenue's forecast of petroleum revenues between FY 2014 and FY 2022 is $8 billion lower than it was last year. The value of financial assets is the same in FY 2014 as in FY 2013, partly because of the $1.2 billion fiscal burden passed forward from the previous year. The General Fund MSY has also fallen because the expected Permanent Fund dividend amount has increased.

Sensitivity of Estimates

Opinions will differ about the value of the petroleum nest egg, based on different assumptions about future energy prices, production, and government policies. Different assumptions about return on investment and the growth rate of spending also will influence the size of the MSY.

A partial set of possible scenarios generates a range of nest egg values from $145 to $195 billion—shown in the higher and lower scenario tables below—although the value could fall outside that range. Combining different assumptions about return on investment and rate of growth of the budget results in a General Fund MSY that ranges between $2.5 billion and $7.4 billion. Although that range is quite wide, the actual General Fund budget of $7.6 billion in FY 2013 would have been non-sustainable under any of these scenarios.

HIGHER SCENARIOS	NEST EGG	GF MSY FY2014
ANWR @ 500 Thousand Barrels per Day	$175	$7.0
ANWR + OCS @ 500 Thousand Barrels per Day with Shared Royalties	$182	$6.8
Double Estimate of Post 2022 Revenues	$195	$7.4

LOWER SCENARIOS	NEST EGG	GF MSY FY2014
Lower Investment Return (4%)	$160	$4.4
Lower Investment Return (4%) + No Gas Revenue	$145.2	$3.9
Lower Investment Return (4%) + No Gas Revenue + General Fund Growth 1% Real Per Capita (4%)	$145.2	$2.5

Other Forms of Petroleum Wealth

The state has put $45 billion of the $170 billion of petroleum revenues collected through FY 2012 into financial assets that today have a value of $60 billion.

The state has spent much of the rest to enhance the well-being of Alaskans through investments in physical capital like roads, harbors, and utility systems, and in human capital through spending on health care, education, and other services. Estimates of the value of those investments are not available, but they certainly enhance the size of the petroleum nest egg.

And although the value of those investments has not been quantified, the MSY fiscal strategy does not ignore them: the sustainable flow of earnings from the financial nest egg provides the state with the funding to continue to invest in the well-being of both present and future generations of Alaskans.

The strategy also provides a framework for deciding when an investment in physical or human capital would provide more benefit than a financial investment. That would be the case when it could be demonstrated that the flow of benefits from such an investment would exceed the flow of benefits that would come from spending the income from the financial investment.

PETROLEUM WEALTH MANAGEMENT WORKSHEET

			FY 2013	FY 2014	Change	
PETROLEUM WEALTH			Billion $	Billion $	Billion $	
1	**Financial Assets (2+3+4+5)**		**$ 60.00**	**$ 60.00**	$ -	
2	Permanent Fund Balance		$ 42.00	$ 43.00	$ 1.0	a
3	+ Constitutional Budget Reserve		$ 16.00	$ 11.00	$ (5.0)	b
4	+ Statutory Budget Reserve		$ 2.00	$ 5.00	$ 3.0	c
5	+ Other		$ -	$ 1.00	$ 1.0	
6	**Petroleum in Ground (7+10+17)--Net Present Value discounted @**	5.0%	**$ 100.68**	**$ 88.69**	$ (12.0)	
7	Conventional North Slope--State Lands		**$ 80.54**	**$ 67.11**	$ (13.4)	d
8	DOR projection (thru 2022)		$ 50.89	$ 43.11	$ (7.8)	
9	DOR extended		$ 29.65	$ 24.00	$ (5.6)	
10	+ Other Oil		**$ 6.75**	**$ 9.85**	$ 3.1	
11	Conventional		$ 2.14	$ 4.75	$ 2.6	e
12	Viscous/Heavy Oil		$ 1.56	$ 1.72	$ 0.2	
13	Shale Oil		$ 1.57	$ 1.72	$ 0.1	
14	OCS		$ 1.49	$ 1.67	$ 0.2	
15	ANWR		$ -	$ -	$ -	
16	NPRA		$ -	$ -	$ -	
17	+ Gas		$13	$12	$ (1.7)	f
18	**= TOTAL PETROLEUM WEALTH (1+6)**		**$ 160.7**	**$ 148.7**	$ (12.0)	
SUSTAINABLE DRAW RATE			Annual Rate	Annual Rate		
19	Real Rate of Return Net of Inflation		5.0%	5.0%		
20	- Projected Population Growth Adjustment		1.0%	1.0%		
21	- Projected Real Per Capita Budget Growth Adjustment		0.0%	0.0%		
22	**= SUSTAINABLE DRAW RATE (19-20-21)**		**4.0%**	**4.0%**		
MAXIMUM SUSTAINABLE YIELD (MSY)			Billion $	Billion $		
23	**= MAXIMUM SUSTAINABLE YIELD (18 x 22)**		**$ 6.43**	**$ 5.95**	$ (0.5)	
GENERAL FUND MSY SPENDING CAP			Billion $	Billion $		
24	Maximum Sustainable Yield (=23)		$ 6.43	$ 5.95	$ (0.5)	
25	- Permanent Fund Dividend Distribution		$ 0.57	$ 0.96	$ 0.4	g
26	= General Fund Petroleum Spending Cap (24-25)		$ 5.86	$ 4.99	$ (0.9)	
27	- General Fund Earnings Spending (from Petroleum Wealth)		$ 0.18	$ 0.07	$ (0.1)	h
28	= GENERAL FUND CURRENT PETROLEUM REVENUE SPENDING CAP		$ 5.68	$ 4.92	$ (0.8)	
29	+ General Fund Non-Petroleum Revenues (excluding GF earnings)		$ 0.56	$ 0.54	$ (0.0)	i
30	**= GENERAL FUND MSY SPENDING CAP (27+28+29)**		**$ 6.42**	**$ 5.53**	$ (0.9)	

Source: Institute of Social and Economic Research, University of Alaska Anchorage

Assumptions: No new taxes
Growth of General Fund spending and Permanent Fund Dividend account constrained to the combined rate of population increase and inflation
All financial assets earn maximum rate of return

Notes: Financial Assets valued at start of fiscal year.
Fifty years of revenues from petroleum in the ground discounted to start of fiscal year.

a Growth from new revenues and earnings

b FY2013 GF spending higher and revenues lower than anticipated, resulting in lower surplus

$ 8,218	fall 2011 revenue forecast for FY2013
$ 7,512	fall 2012 revenue forecast for FY2013
$ 7,042	OMB forecast for FY2013 GF spending
$ 7,600	final appropriations for FY2013 spending

c Re-assignment of some surplus to SBR from CBR

d FY2013 revenues spent and DOR forecast lower

e Lower DOR projection leaves more for future production

f Size of pipeline reduced from 4.5 bcf to 3.5 bcf per day

g Larger because of PFD formula mechanics

h Reduction in GF earnings

i No change in non-petroleum GF revenues

		BASE CASE	LOW CASES			HIGH CASES		
		FY 2014	LOW INVESTMENT RETURN	LOW INVESTMENT RETURN + NO GAS REVENUES	LOW INVESTMENT RETURN + NO GAS REVENUES + GF RPC GROW 1%	ANWR @ 500K BPD	ANWR @ 500K BPD + OCS @ 500K BPD WITH SHARED ROYALTIES	DOUBLE POST 2022 REVENUES
PETROLEUM WEALTH		Billion $	Billion $	Billion $	Billion $	Billion $	Billion $	Billion $
1	**Financial Assets (2+3+4+5)**	**$ 60.00**	**$ 60.00**	**$ 60.00**	**$ 60.00**	**$ 60.00**	**$ 60.00**	**$ 60.00**
2	Permanent Fund Balance	$ 43.00	$ 43.00	$ 43.00	$ 43.00	$ 43.00	$ 43.00	$ 43.00
3	+ Constitutional Budget Reserve	$ 11.00	$ 11.00	$ 11.00	$ 11.00	$ 11.00	$ 11.00	$ 11.00
4	+ Statutory Budget Reserve	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00
5	+ Other	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00
6	**Petroleum in Ground (7+10+17)--Net Present Value discounted @ 5.0%**	**$ 88.69**	**$ 100.03**	**$ 85.24**	**$ 85.24**	**$ 115.03**	**$ 121.70**	**$ 134.55**
7	Conventional North Slope--State Lands	**$ 67.11**	**$ 73.37**	**$ 73.37**	**$ 73.37**	**$ 67.11**	**$ 67.11**	**$ 91.39**
8	DOR projection	$ 43.11	$ 44.91	$ 44.91	$ 44.91	$ 43.11	$ 43.11	$ 43.11
9	DOR extended	$ 24.00	$ 28.46	$ 28.46	$ 28.46	$ 24.00	$ 24.00	$ 48.28
10	+ Other Oil	**$ 9.85**	**$ 11.87**	**$ 11.87**	**$ 11.87**	**$ 36.19**	**$ 42.87**	**$ 19.71**
11	Conventional	$ 4.75	$ 5.74	$ 5.74	$ 5.74	$ 4.75	$ 4.75	$ 9.50
12	Viscous/Heavy Oil	$ 1.72	$ 2.04	$ 2.04	$ 2.04	$ 1.72	$ 1.72	$ 3.43
13	Shale Oil	$ 1.72	$ 1.98	$ 1.98	$ 1.98	$ 1.72	$ 1.72	$ 3.43
14	OCS	$ 1.67	$ 2.11	$ 2.11	$ 2.11	$ 1.67	$ 8.35	$ 3.34
15	ANWR	$ -	$ -	$ -	$ -	$ 26.34	$ 26.34	$ -
16	NPRA	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	+ Gas	$12	$15	$0	$0	$12	$12	$23
18	**= TOTAL PETROLEUM WEALTH (1+6)**	**$ 148.7**	**$ 160.0**	**$ 145.2**	**$ 145.2**	**$ 175.0**	**$ 181.7**	**$ 194.5**
SUSTAINABLE DRAW RATE		Annual Rate	Annual Rate	Annual Rate	Annual Rate	Annual Rate	Annual Rate	Annual Rate
19	Real Rate of Return Net of Inflation	5.0%	4.0%	4.0%	4.0%	5.0%	5.0%	5.0%
20	- Projected Population Growth Adjustment	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
21	- Projected Real Per Capita Budget Growth Adjustment	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%
22	**= SUSTAINABLE DRAW RATE (19-20-21)**	**4.0%**	**3.0%**	**3.0%**	**2.0%**	**4.0%**	**4.0%**	**4.0%**
MAXIMUM SUSTAINABLE YIELD (MSY)		Billion $	Billion $	Billion $	Billion $	Billion $	Billion $	Billion $
23	**= MAXIMUM SUSTAINABLE YIELD (18 x 22)**	**$ 5.95**	**$ 4.80**	**$ 4.36**	**$ 2.90**	**$ 7.00**	**$ 7.27**	**$ 7.78**
GENERAL FUND MSY SPENDING CAP		Billion $	Billion $	Billion $	Billion $	Billion $	Billion $	Billion $
24	Maximum Sustainable Yield (=23)	$ 5.95	$ 4.80	$ 4.36	$ 2.90	$ 7.00	$ 7.27	$ 7.78
25	- Permanent Fund Dividend Distribution	$ 0.96	$ 0.96	$ 0.96	$ 0.96	$ 0.96	$ 0.96	$ 0.96
26	= General Fund Petroleum Spending Cap (24-25)	$ 4.99	$ 3.84	$ 3.40	$ 1.94	$ 6.04	$ 6.31	$ 6.82
27	- General Fund Earnings Spending (from Petroleum Wealth)	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.07
28	= GENERAL FUND CURRENT PETROLEUM REVENUE SPENDING CAP	$ 4.92	$ 3.77	$ 3.33	$ 1.88	$ 5.97	$ 6.24	$ 6.75
29	+ General Fund Non-Petroleum Revenues (excluding GF earnings)	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54	$ 0.54
30	**= GENERAL FUND MSY SPENDING CAP (27+28+29)**	**$ 5.52**	**$ 4.38**	**$ 3.93**	**$ 2.48**	**$ 6.58**	**$ 6.84**	**$ 7.36**

[i] The OMB plan includes four illustrative projections, all assuming the FY 2014 General Fund appropriation will be $6.5 billion—$1.1 billion below FY 2013. Three are clearly not sustainable. This graph assumes FY 2014 General Fund spending will be the same as last year and that revenues will equal the Alaska Department of Revenue projection published in December 2012.

[ii] This case would be sustainable with the inclusion of income and sales taxes.

[iii] This assumes all financial assets would be invested to generate an average over time of 5% (net of inflation).

[iv] Earnings to fund General Fund appropriations would come from any combination of cash reserves and the Permanent Fund.