Maximum Sustainable Yield: Wealth Management for the “Owner State”

Commonwealth North
Anchorage, Alaska
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With Generous Financial Support From

Northrim Bank
Customer First Service
Alaska Petroleum Revenues:
$178 Billion since 1977
Petroleum Wealth in our Infrastructure

Physical Capital

Human Capital

Oil and the Alaska Economy
<table>
<thead>
<tr>
<th><strong>$ IN THE BANK</strong></th>
<th><strong>$60</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Fund</td>
<td>$42</td>
</tr>
<tr>
<td>CBR (Constitutional Budget Reserve)</td>
<td>$18</td>
</tr>
<tr>
<td>SBR (Statutory Budget Reserve)</td>
<td></td>
</tr>
<tr>
<td>GF (General Fund)</td>
<td></td>
</tr>
</tbody>
</table>

Petroleum Wealth in the Bank (Billion $)
GF Spending Has Grown to Match Higher Revenues

GF Appropriations net of Savings.
DOR Projected Petroleum Revenues

Million 2011 $:

- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028

$8,000
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
-$-
We are starting to draw down our savings

Have We Saved Enough to Fund Necessary Public Services in the Future to Help Sustain our Economic Prosperity?
Lots of Petroleum in Our Future but Limited Revenue

Alaska North Slope: Estimated Economically Recoverable Oil Resources (Billion Barrels)

<table>
<thead>
<tr>
<th></th>
<th>Central North Slope</th>
<th>Beaufort OCS</th>
<th>Chukchi OCS</th>
<th>NPRA 1002</th>
<th>ANWR 1002</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Conventional</td>
<td>7.0</td>
<td>9.1</td>
<td>3.0</td>
<td>4.5</td>
<td>1.5</td>
<td>28.0</td>
</tr>
<tr>
<td>Known Unconventional</td>
<td>3.2</td>
<td>4.3</td>
<td>3.1</td>
<td>4.5</td>
<td>1.5</td>
<td>18.1</td>
</tr>
<tr>
<td>Yet to be Discovered</td>
<td>17.7</td>
<td>24.2</td>
<td>10.2</td>
<td>9.0</td>
<td>0.0</td>
<td>54.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>28.0</td>
<td>38.5</td>
<td>16.5</td>
<td>32.0</td>
<td>5.0</td>
<td>130.6</td>
</tr>
</tbody>
</table>

Source: ISER Estimate.
State 10 Year Fiscal Plan

Scenario 3: Governor’s FY2014 Budget with 4% Annual GF Expenditure Growth beginning in FY2015

GF Revenue versus Appropriations FY13 to FY23
Fall 2012 Revenue Forecast GF Spending growth (all components) at 4% annual rate through FY2023 (Scenario 3)
Petroleum Share of GF Revenues
Alaska is the “Owner State” and Petroleum is Our Biggest Asset.

1) How Big is Our Nest Egg?
2) How Should We Manage It?
3) How Should We Distribute its Earnings?
Petroleum Wealth in the Ground

NOMINAL

$536 Billion

DISCOUNTED NET PRESENT VALUE

$89 Billion
Total Petroleum Wealth of the “Owner State”

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>$149 Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the Bank</td>
<td>$60 Billion</td>
</tr>
<tr>
<td>In the Ground</td>
<td>$89 Billion</td>
</tr>
</tbody>
</table>

$200,000 for each current resident
HOW SHOULD WE MANAGE THE NEST EGG (Asset, Endowment)?

For Maximum Long Run Return
HOW MUCH OF THE NEST EGG SHOULD WE SPEND?

Draw each year at a rate that will conserve the value of the Nest Egg for future generations of Alaskans—the Maximum Sustainable Yield.
### Maximum Sustainable Yield Calculation

<table>
<thead>
<tr>
<th>Nest Egg</th>
<th>$149 Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Return (After Inflation)</td>
<td>5%</td>
</tr>
<tr>
<td>Population Growth</td>
<td>1%</td>
</tr>
<tr>
<td>MSY Draw Rate</td>
<td>4% = (5%-1%)</td>
</tr>
<tr>
<td><strong>MSY Draw</strong></td>
<td>$6 Billion = ($149*4%)</td>
</tr>
</tbody>
</table>
This answers the Savings Question.

Save all revenues and financial earnings over and above the MSY Allowable Draw.

Then future generations of Alaskans will share equally with us today in the wealth from petroleum.
- Spending Per Person Maximized and Constant (Real $ Per Capita)

- Value of Nest Egg Per Person Maximized and Constant (Real Thousand $ Per Capita)

- Nest Egg Grows With Population (Billion Real $)
- Non sustainable oil revenues transformed into sustainable financial assets
Nest Egg
MSY General Fund
Spending
Nest Egg
Revenues

Financial Earnings
Oil & Gas Revenue

Maximum Sustainable Yield

Draw Rate 4%

GF Non Petroleum Revenues

MSY General Fund Spending

Oil and the Alaska Economy

Permanent Fund Dividend

$6

$5.5

$.5

$1
### FY 2013 General Fund Spending (Billion $)

<table>
<thead>
<tr>
<th>GF Actual Spend (Billion $)</th>
<th>$7.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>GF Maximum Sustainable Yield Draw*</td>
<td>$5.5</td>
</tr>
<tr>
<td><strong>GF Over Spend</strong></td>
<td><strong>$2.1</strong></td>
</tr>
<tr>
<td>Fiscal Burden &amp; Asset Erosion</td>
<td></td>
</tr>
</tbody>
</table>

- After subtracting endowment spending on the PFD and adding in non-petroleum revenues.
- To get on a MSY path, save all revenues above this amount.
Fiscal Strategy

"Please God, give us another oil boom, we promise not to play it away this time"
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by
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