

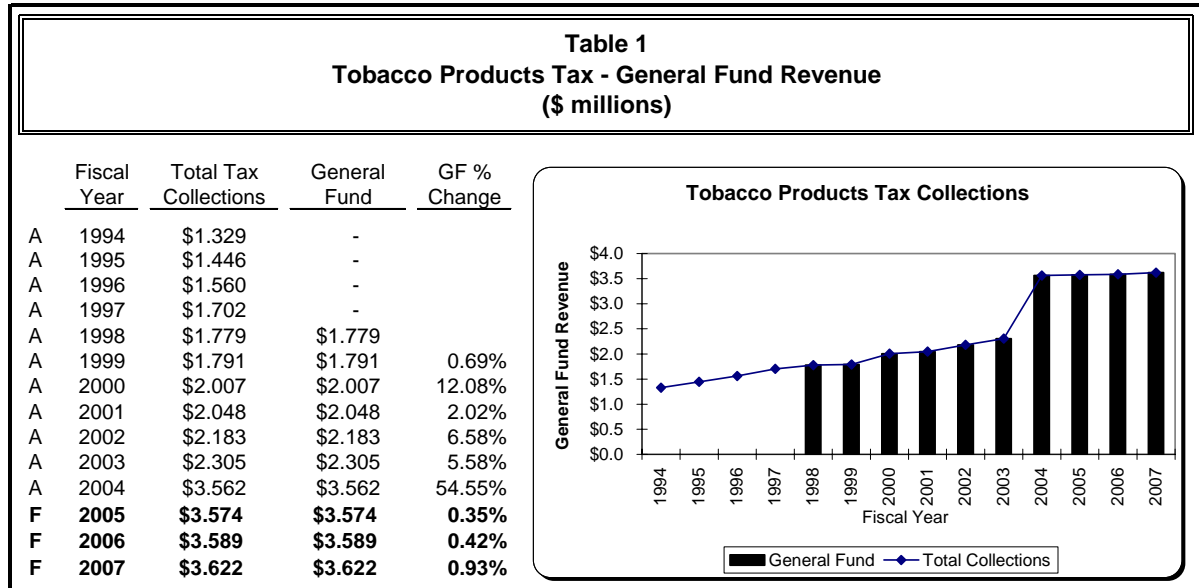
## TOBACCO PRODUCTS TAX

### Revenue Description

Section 16-11-202, MCA, directs the Department of Revenue (DOR) to collect a tax of 35 cents an ounce on moist snuff and 25% of the wholesale price of all other tobacco products. Tobacco products destined for retail sale and consumption outside Montana are not subject to this tax. The general fund receives 100% of the tobacco products tax revenue after distribution to tribes that have revenue sharing agreements.

### Historical and Projected Revenue

Table 1 shows both historical and projected total tax collections and general fund revenue from the tobacco tax for FY 1994 through FY 2007.



Prior to FY 1998, tobacco taxes were not allocated to the general fund. Under the provisions of HB 166 (1997 session) tobacco tax revenues, after tribal revenue sharing payments, are distributed 100% to the general fund.

Beginning May 1, 2003, SB 407 (2003 session) changed the tax on moist snuff from 12.5% of the wholesale price to \$0.35 per ounce, an effective increase of \$0.07 per ounce. SB 407 also increased the tax on all other tobacco from 12.5% of the wholesale price to 25% of the wholesale price. The tax increases under SB 407 explain the overall increase in tobacco tax revenue in FY 2003 and FY 2004.

The forecast projects general fund revenue to increase 0.35% in FY 2005, 0.42% in FY 2006, and 0.93% in FY 2007.

## Forecast Methodology and Projection Calculation

Since moist snuff and all other tobacco products now have different tax bases (ounces for moist snuff and wholesale price for other tobacco products), the revenue estimate examines each tax base separately.

Common variables used in estimating tobacco tax revenues for both moist snuff and all other tobacco products are:

1. Montana adult population
2. The change in demand attributable to the increase in the tax rate
3. Per capita collections of tobacco tax revenue

Because SB 407 changed the tax on moist snuff from a tax on wholesale price to a per ounce tax, future collections will no longer increase due to snuff price increases. This is significant because historic growth in collections was almost entirely attributable to increases in the snuff price. Therefore, in addition to the aforementioned variables, to mitigate the historic growth due to price increases, estimated moist snuff consumption is projected based on collections adjusted for inflation.

The forecast assumes that moist snuff and other tobacco products have identical growth patterns. This assumption is necessary because actual consumption data was not tracked for tobacco products prior to SB 407; only the wholesale revenue subject to tax was tracked. National price indices show similar growth for both snuff and all other tobacco products.

### Population Growth

Table 2 shows the projected adult population, and percent change (growth) for FY 2005 through FY 2007.

| <b>Table 2</b>   |                                  |             |
|--|----------------------------------|-------------|
| <b>Projected Adult Population<br/>FY 2005 to FY 2007</b> |                                  |             |
| Fiscal<br>Year   | Adult<br>Population <sup>1</sup> | %<br>Change |
| A 2004   | 753,037                          |             |
| F 2005   | 757,695                          | 0.62%       |
| F 2006   | 761,921                          | 0.56%       |
| F 2007   | 765,965                          | 0.53%       |

<sup>1</sup> Source: Global Insight, Inc. Forecast of MT Population Age 15 and Over.

### Tobacco Products Price Elasticity

Price elasticity is the consumption change response to a price change. Historic price elasticity for cigarettes and tobacco products has ranged between -0.40 and -0.55. A price elasticity of -0.40 means that a 10% increase in price will reduce demand or consumption by 4%. For this analysis, a price elasticity of -0.44 is used to predict the SB 407 tax increase impact on demand for tobacco products.

This analysis assumes that the tax increase will raise the wholesale price of other tobacco products, or retail price per ounce of moist snuff, by the same amount.

## Historical Per Capita Tax Collections

Table 3 shows historical Montana adult population and adult per capita tobacco product tax collections. Historic per capita collections are total tax collections divided by adult population. As the top portion of Table 3 shows, per capita tobacco product tax collections have increased steadily since FY 1994. With the tax increase in May of FY 2003, per capita collections increased 52.57% in FY 2004.

Prior to the tax increase in FY 2003, per capita collections from FY 1994 through FY 2002 increased from \$1.96 to \$3.01 for an overall change of 53%. However, included in this growth were payments that tobacco companies began making in FY 2000 under the tobacco settlement. The tobacco settlement increased the wholesale price of tobacco products significantly in FY 2000. Because this growth from FY 1999 to FY 2000 was an unusual change, it was excluded in calculating the historical average annual per capita collection percentage.

The change in per capita collections from FY 1994 through FY 2002, excluding FY 2000, was 39.2%, or an average annual increase of 4.84%.

In FY 2004, other tobacco product tax collections were approximately 26% of the tobacco products tax collections, or \$0.9 million. Moist snuff tax collections made up approximately 74% of the total tax collections, or \$2.7 million.

| <b>Table 3</b><br><b>Per Capita Tobacco Tax Collections</b><br><b>FY 1994 through FY 2004</b> |                   |                               |        |                        |        |
|---|-------------------|-------------------------------|--------|------------------------|--------|
| Fiscal Year <sup>1</sup>  | Total Collections | Adult Population <sup>2</sup> | % Chg. | Per Capita Collections | % Chg. |
| A 1994  | \$ 1,328,908      | 677,511                       |        | \$1.96                 |        |
| A 1995  | \$ 1,446,101      | 689,259                       | 1.73%  | \$2.10                 | 6.96%  |
| A 1996  | \$ 1,559,886      | 696,457                       | 1.04%  | \$2.24                 | 6.75%  |
| A 1997  | \$ 1,702,000      | 701,376                       | 0.71%  | \$2.43                 | 8.35%  |
| A 1998  | \$ 1,801,083      | 707,240                       | 0.84%  | \$2.55                 | 4.94%  |
| A 1999  | \$ 1,817,971      | 714,269                       | 0.99%  | \$2.55                 | -0.06% |
| A 2000  | \$ 2,042,241      | 724,323                       | 1.41%  | \$2.82                 | 10.78% |
| A 2001  | \$ 2,097,590      | 733,465                       | 1.26%  | \$2.86                 | 1.43%  |
| A 2002  | \$ 2,228,524      | 741,490                       | 1.09%  | \$3.01                 | 5.09%  |
| <b>Ave. Annual Per Capita Change 1994 - 1999 &amp; 2001 - 2002</b>                            |                   |                               |        | <b>4.84%</b>           |        |
| A 2003  | \$ 2,360,471      | 747,936                       | 0.87%  | \$3.16                 | 5.01%  |
| A 2004  | \$ 3,625,893      | 753,037                       | 0.68%  | \$4.82                 | 52.57% |

<sup>1</sup> FY 2000 was first year of Tobacco Settlement Payments  
<sup>2</sup> Source: Global Insight, Inc. Forecast of MT Population Age 15 and Over.  
<sup>3</sup> Total tax collections in this table includes tribal collections (Table 1 does not)

## Projected Per Capita Tax Collections – Without SB 407

Assuming SB 407 had *not* affected tobacco tax revenue, continuing the trend in per capita collections forward creates a baseline for applying the tobacco product elasticity and estimating future revenue.

Table 4 shows the projected per capita trend for FY 2005 to FY 2007 without considering the impact of SB 407. The historical average annual change of 4.84% is used to project FY 2005 per capita collections. The forecast assumes that growth in per capita collections in FY 2006 and FY 2007 will level slightly from the historic annual average, and are projected at 95% of the prior year growth, which is 4.60% and 4.37% respectively.

| Fiscal Year | Baseline Growth Rate | Adjustment Factor | Per Capita Growth Rate |
|-------------|----------------------|-------------------|------------------------|
| F 2005      | 4.84%                | x 0.00            | = 4.84%                |
| F 2006      | 4.84%                | x 0.95            | = 4.60%                |
| F 2007      | 4.60%                | x 0.95            | = 4.37%                |

### Other Tobacco Products Tax Base

The amount of other tobacco products taxed on wholesale price is forecast by estimating the wholesale amount of tobacco products that would have been taxed without any change in price. These amounts are then adjusted for the estimated impacts on consumption (elasticity) due to the increased price attributable to the tax increase.

### Change in Consumption of Other Tobacco Products Prior to Tax Increase

Table 5 shows estimated adult population (Table 2) growth, per capita tax growth (Table 4), and the combined population and per capita growth rate. The combined growth rate<sup>1</sup> is used to estimate sales that would have been taxed without an increase in price (tax). The combined impact of population growth and per capita consumption is an overall increase of 5.49% in FY 2005, 5.18% in FY 2006, and 4.92% in FY 2007.

| Fiscal Year | Population Growth | Per Capita Consumption | Combined Growth |
|-------------|-------------------|------------------------|-----------------|
| F 2005      | 0.62%             | 4.84%                  | 5.49%           |
| F 2006      | 0.56%             | 4.60%                  | 5.18%           |
| F 2007      | 0.53%             | 4.37%                  | 4.92%           |

These growth rates are then applied to the estimated wholesale amount of other tobacco products sold without the changes due to SB 407. Using FY 2004 collections, adjusted for elasticity, it is estimated that without a change in price (tax), the estimated wholesale amount of other tobacco products sold would have been \$4.047 million. This is the \$0.9 million of FY 2004 taxes collected plus wholesalers discounts, divided by the 25% tax rate, divided by the inverse of the elasticity impact, or .9511 (1 – 4.89%).

<sup>1</sup> The projected growth is made by dividing one plus the percent change in per capita collections, by one plus the inflation factor or index, and subtracting one. For instance, in FY 2005 the adjustment calculation is:  $((1 + 0.62\%) \div (1 + 4.84\%) - 1) = 5.49\%$

As Table 6 shows, the wholesale price of other tobacco products is forecast by applying the combined growth rate from Table 5 to the taxable sales. The wholesale price of other tobacco products sold prior to the SB 407 tax increase is estimated at \$4.269 million in FY 2005, \$4.490 million in FY 2006, and \$4.712 million in FY 2007.

| <b>Table 6</b><br><b>Other Tobacco Tax Base</b><br><b>Prior to SB 407</b><br><b>(\$ millions)</b> |                        |          |
|---|------------------------|----------|
| Fiscal Year   | Prior to Tax Increase* | % Change |
| F 2004  | \$4.047                |          |
| F 2005  | \$4.269                | 5.49%    |
| F 2006  | \$4.490                | 5.18%    |
| F 2007  | \$4.712                | 4.92%    |

\*Wholesale Price

### Other Tobacco Products Tax Base after SB 407

At any price level, the increase in tax from 12.5% to 25% of wholesale price equates to a price increase of 11.11%. A price elasticity of -0.44 for other tobacco products reduces consumption by 4.89%, which is calculated by multiplying the 11.11% price change by the elasticity of -0.44 (11.11% x -0.44 = -4.89%).

Table 7 shows the increase in price due to the higher tax rate in SB 407. The wholesale price of other tobacco product sales is projected at \$4.060 million in FY 2005, \$4.271 million in FY 2006, and \$4.481 million in FY 2007.

| <b>Table 7</b><br><b>Other Tobacco Tax Base with SB 407</b><br><b>FY 2005 through FY 2007</b><br><b>(\$ millions)</b> |                       |                     |                    |
|---|-----------------------|---------------------|--------------------|
| Fiscal Year   | Prior to Tax Increase | Elasticity % Change | After Tax Increase |
| F 2005  | \$4.269               | -4.89%              | \$4.060            |
| F 2006  | \$4.490               | -4.89%              | \$4.271            |
| F 2007  | \$4.712               | -4.89%              | \$4.481            |

-----Other Tobacco Products (Dollars)-----

### **Moist Snuff Tax Base**

Moist snuff ounces are forecast by estimating the number of *ounces* that would have been taxed without any change in price. However, since the tax on moist snuff prior to SB 407 was assessed on wholesale price, historical consumption (ounces) is forecast by using historical tax collections adjusted by a producer price index to mitigate the growth in tax collections due to price increases.

Once historical consumption is estimated, it is then adjusted for the estimated impacts on consumption (elasticity) due to the increased price attributable to the tax increase.

Consumption Change in Moist Snuff Prior to SB 407 Tax Increase

Table 8 shows the producer price index for snuff and the percent change from FY 1994 through FY 2002. A producer price index shows the change in the manufacturing price of a product and is an indication of inflation. The producer price index is used to neutralize the increase in tax due to raises in the price of the product.

An average annual change is used to forecast the index into the future. However, as was done with per capita collections, since FY 2000 saw an unusually high increase attributable to the first year of tobacco settlement payments, it was excluded in calculating the average annual change.

| <b>Table 8<br/>Snuff - Producer Price Index<br/>Bureau of Labor Statistics</b> |                              |               |               |
|--|------------------------------|---------------|---------------|
| <b>Fiscal Year<sup>1</sup></b>   | <b>BLS Index<sup>2</sup></b> | <b>Change</b> | <b>% Chg.</b> |
| 1994   | 288.0                        |               |               |
| 1995   | 313.2                        | 25.2          | 8.75%         |
| 1996   | 322.2                        | 9.0           | 2.87%         |
| 1997   | 332.9                        | 10.7          | 3.32%         |
| 1998   | 349.8                        | 16.9          | 5.08%         |
| 1999   | 381.5                        | 31.7          | 9.06%         |
| 2000   | 420.4                        | 38.9          | 10.20%        |
| 2001   | 439.1                        | 18.7          | 4.45%         |
| 2002   | 460.5                        | 21.4          | 4.87%         |
| <b>Ave. Annual Change 1994-1999 &amp; 2001-2002</b>                            |                              |               | <b>5.60%</b>  |

<sup>1</sup> FY 2000 Year 1 of Tobacco Settlement Payments  
<sup>2</sup> Measurements taken in June of each year

The forecast assumes that once inflation is removed, the change in tax collections is attributable to a change in consumption. The top of Table 9 shows the annual change in per capita collections from Table 3, the annual change in the producer price index from Table 8, and the annual change in per capita collections adjusted for price increases.<sup>2</sup> The adjusted collection percent is the estimated change in snuff consumption.

Highlighted in Table 9, the historical average annual change of 5.60% is used to project the FY 2005 price index. The price index in FY 2006 and FY 2007 is projected at 95% of the prior years growth, which is 5.32% and 5.05% respectively.

As shown on the bottom-right of Table 9, using the estimated change in per capita collections and adjusting by the estimated change in the price index yields an estimated snuff consumption decrease of 0.75% in FY 2005, 0.71% in FY2006, and 0.68% in FY 2007.

| <b>Table 9<br/>Price Adjusted Per Capita Collections</b> |                               |                  |                             |
|--|-------------------------------|------------------|-----------------------------|
| <b>----- Percent Change -----</b>                        |                               |                  |                             |
| <b>Fiscal Year<sup>1</sup></b>                           | <b>Per Capita Collections</b> | <b>BLS Index</b> | <b>Adjusted Collections</b> |
| 1995   | 6.96%                         | 8.75%            | -1.79%                      |
| 1996   | 6.75%                         | 2.87%            | 3.88%                       |
| 1997   | 8.35%                         | 3.32%            | 5.02%                       |
| 1998   | 4.94%                         | 5.08%            | -0.13%                      |
| 1999   | -0.06%                        | 9.06%            | -9.12%                      |
| 2000   | 10.78%                        | 10.20%           | 0.58%                       |
| 2001   | 1.43%                         | 4.45%            | -3.02%                      |
| 2002   | 5.09%                         | 4.87%            | 0.22%                       |
| <b>Average Annual Change 1994-1999 &amp; 2001-2002</b>   |                               |                  | <b>-0.75%</b>               |
|  | 4.84%                         | 5.60%            |                             |
| 2005   | 4.84%                         | 5.60%            | -0.75%                      |
| 2006   | 4.60%                         | 5.32%            | -0.71%                      |
| 2007   | 4.37%                         | 5.05%            | -0.68%                      |

<sup>1</sup> FY 2000 was first year of Tobacco Settlement Payments

<sup>2</sup>The adjustment is made by dividing one plus the percent change in per capita collections, by one plus the inflation factor or index, and subtracting one. For instance, in FY 2002 the adjustment calculation is: ((1 + 5.09%) ÷ (1 + 4.87%) - 1) = 0.22%.

Using actual FY 2004 collections, adjusted for elasticity, it is calculated that, without a change in price (tax), estimated ounces of moist snuff would have been 7.959 million in FY 2004. This figure is derived by adding wholesaler discounts to FY 2004 tax collections of \$2.7 million, dividing by the \$0.35 tax rate, then dividing by the inverse of the elasticity impact, or 0.9896 (1 – 1.04%).

As shown in Table 10, ounces of moist snuff are forecast by applying the growth rates from Table 9 to the prior years total. Consumption of moist snuff ounces is estimated at 7.902 million in FY 2005, 7.849 million in FY 2006, and 7.798 million in FY 2007.

| <u>Fiscal Year</u> | <u>Prior to Tax Increase</u> | <u>% Change</u> |
|--------------------|------------------------------|-----------------|
| F 2004             | 7.959                        |                 |
| F 2005             | 7.902                        | -0.71%          |
| F 2006             | 7.849                        | -0.68%          |
| F 2007             | 7.798                        | -0.64%          |

### Moist Snuff Tax Base after SB 407

For purposes of projecting demand, the retail price per ounce of moist snuff prior to the tax increase was \$2.95, and now, is estimated at \$3.02 (\$2.95 + \$0.07) per ounce. (Although moist snuff is typically sold in 1.2-ounce cans, demand is projected for each ounce because the tax is calculated on a per ounce basis.) The tax increase of \$0.07 is an increase of 2.37% ( $\$0.07 \div \$2.95$ ). A price elasticity of demand for moist snuff of -0.44 in the model means that, with a base price prior to the tax increase of \$2.95, an increase of \$0.07 will decrease consumption by 1.04% ( $2.37\% \times -0.44 = -1.04\%$ .)

As Table 11 shows, with the increase in price due to the higher tax rate per ounce, ounces of moist snuff sold are forecast at 7.820 million in FY 2005, 7.767 million in FY 2006, and 7.717 million in FY 2007.

| <u>Fiscal Year</u> | <u>-----Moist Snuff Ounces Sold-----</u> |                        |                           |
|--------------------|--|------------------------|---------------------------|
|                    | <u>Prior to Tax Increase</u>             | <u>% Change Ounces</u> | <u>After Tax Increase</u> |
| F 2005             | 7.902                                    | -1.04%                 | 7.820                     |
| F 2006             | 7.849                                    | -1.04%                 | 7.767                     |
| F 2007             | 7.798                                    | -1.04%                 | 7.717                     |

### **Wholesaler Discounts**

The excise tax on tobacco products is imposed on retail consumers, but is collected by wholesalers. Wholesalers are allowed a discount equal to 2.5% of total tax collections to defray collection and administrative costs.

Wholesaler discounts for other tobacco products are estimated at \$25,377 for FY 2005, \$26,693 in FY 2006, and \$28,008 in FY 2007. Wholesaler discounts for moist snuff are estimated at \$68,423 for FY 2005, \$67,960 in FY 2006, and \$67,523 in FY 2007.

## **Tribal Revenue Sharing Agreements**

There are three types of arrangements for tobacco taxes with the seven reservations in Montana:

- 1) The Northern Cheyenne, Rocky Boy, and Crow Reservations have a tax-free quota agreement with the state.
- 2) The Flathead Reservation abides by the tax-free quota law with no specific agreement with the state.
- 3) The Blackfeet, Fort Belknap, and Fort Peck Reservations have a revenue sharing agreement with the state.

Wholesalers receive a refund for taxes pre-collected on tobacco products sold to tribal members on an Indian reservation that utilize the tax-free quota system.

Under the revenue sharing agreements, tribal revenue payments are calculated by multiplying the number of tribal members living within the boundaries of each reservation by 150% of the per capita tobacco tax collection amounts in the previous fiscal year. For example, using the FY 2003 per capita amount of \$2.48 (this figure is based on total population, whereas projected growth used in this analysis uses adult population), if a reservation had a tribal population of 1,000, the calculation for calendar year 2004 would be  $1,000 \times \$2.48 \times 150\%$  for a total of \$3,720.

As per capita collections increase with the tax rate change, the revenue sharing payments also increase relatively. However, since tribal payments are made on a calendar year basis, the fiscal year payments made to the tribal governments lag fiscal year collections slightly. Tobacco tax revenue sharing tribal payments are estimated at \$84,262 for FY 2005, \$102,529 in FY 2006, and \$103,452 in FY 2007.

## **General Fund Revenue Calculation**

Table 12 on the following page shows the calculation of tobacco tax revenue for FY 2005 through FY 2007. The calculation first estimates taxes on other tobacco products by multiplying the estimated wholesale price of other tobacco products sold from Table 7 by the tax rate of 25.0%.

The 2.5% wholesaler discounts are then subtracted to yield net other tobacco tax collections of \$0.990 million in FY 2005, \$1.041 million in FY 2006, and \$1.092 million in FY 2007.

Next, moist snuff taxes are projected by multiplying the estimated number of ounces from Table 11 by the tax rate of \$0.35. The 2.5% wholesaler discounts are then subtracted to yield net moist snuff tax collections of \$2.668 million in FY 2005, \$2.650 million in FY 2006, and \$2.633 million in FY 2007.



Last, general fund revenue is determined by subtracting estimated tribal payments from total tobacco products tax revenue.

Estimated general fund tobacco tax revenues total \$3.57 million in FY 2005, \$3.59 million in FY 2006, and \$3.62 million in FY 2007, as shown in Table 12.

| <b>Table 12</b>   |                           |                           |                           |
|---|---------------------------|---------------------------|---------------------------|
| <b>Calculation of General Fund Tobacco Products Tax</b> |                           |                           |                           |
| <b>Other Tobacco Products</b>                           |                           |                           |                           |
| <b>Description</b>                                      | <b>FY 2005</b>            | <b>FY 2006</b>            | <b>FY 2007</b>            |
| Estimated Wholesale Price Other Products                | \$4,060,384               | \$4,270,880               | \$4,481,202               |
| Multiply by Tax Rate (25% of wholesale)                 | 25.0%                     | 25.0%                     | 25.0%                     |
| <b>Estimated Taxes</b>                                  | <b>\$1,015,096</b>        | <b>\$1,067,720</b>        | <b>\$1,120,300</b>        |
| Subtract Est. Wholesaler Discounts (2.5%)               | 25,377                    | 26,693                    | 28,008                    |
| <b>Other Tobacco Tax Collections</b>                    | <b><u>\$ 989,718</u></b>  | <b><u>\$1,041,027</u></b> | <b><u>\$1,092,293</u></b> |
| <b>Moist Snuff</b>                                      |                           |                           |                           |
| <b>Description</b>                                      | <b>FY 2005</b>            | <b>FY 2006</b>            | <b>FY 2007</b>            |
| Estimated Ounces of Moist Snuff                         | 7,819,766                 | 7,766,835                 | 7,716,892                 |
| Multiply by Tax Rate (per ounce)                        | \$ 0.35                   | \$ 0.35                   | \$ 0.35                   |
| <b>Estimated Taxes</b>                                  | <b>\$2,736,918</b>        | <b>\$2,718,392</b>        | <b>\$2,700,912</b>        |
| Subtract Est. Wholesaler Discounts (2.5%)               | 68,423                    | 67,960                    | 67,523                    |
| <b>Moist Snuff Tax Collections</b>                      | <b><u>\$2,668,495</u></b> | <b><u>\$2,650,433</u></b> | <b><u>\$2,633,389</u></b> |
| <b>Total Tobacco Products</b>                           |                           |                           |                           |
| <b>Description</b>                                      | <b>FY 2005</b>            | <b>FY 2006</b>            | <b>FY 2007</b>            |
| Moist Snuff Tax Collections                             | \$2,668,495               | \$2,650,433               | \$2,633,389               |
| Other Tobacco Tax Collections                           | 989,718                   | 1,041,027                 | 1,092,293                 |
| <b>Total Tobacco Tax Collections</b>                    | <b><u>\$3,658,213</u></b> | <b><u>\$3,691,460</u></b> | <b><u>\$3,725,682</u></b> |
| Less Tribal Payments                                    | 84,262                    | 102,529                   | 103,452                   |
| <b>General Fund Tobacco Revenue</b>                     | <b><u>\$3,573,951</u></b> | <b><u>\$3,588,931</u></b> | <b><u>\$3,622,230</u></b> |