

# Interest Earnings

Coal Trust Interest  
Common School Interest and Income  
Treasury Cash Account Interest



*Legislative Fiscal Division*



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# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

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**Revenue Description:** Article IX, section 5 of the Montana Constitution requires that 50.0 percent of all coal severance tax revenue be deposited in a Permanent Coal Tax Trust fund and that the principal of the trust "shall forever remain inviolate unless appropriated by a three-fourths vote of each house". Coal severance tax funds flowing into the trust fund are first used to secure state bonds issued to finance water resource and renewable resource development projects and activities. The funds are then split with 75 percent flowing into the Treasure State Endowment Trust fund and 25 percent flowing into the Treasure State Endowment Regional Water System Trust fund. By statute, interest earned on the Permanent Trust that is not earmarked to other programs is distributed 100.0 percent to the general fund. When calculating interest earnings, the impact of loans made from the trust, such as for the Montana Science and Technology Alliance, are taken into account.

As of October 1, 1995, all fixed-income investments held by the state's major trust funds were transferred to a newly-created Trust Fund Bond Pool (TFBP). The majority of permanent coal tax trust funds are invested as part of the TFBP. Some funds, however, are invested on a short-term basis in the state's Short Term Investment Pool (STIP). In addition, state law provides that trust funds may be used for in-state commercial loans to stimulate economic development. The state Constitution prohibits the investment of the permanent trust in common stock.

**Applicable Tax Rate(s):** N/A

**Distribution:** Interest earned on the permanent coal tax trust fund is deposited into the general fund.

**Collection Frequency:** Monthly

**Applicable Assumptions and/or Relevant Indicators:**

- Gains and Losses Income
- Trust Pool Amortizations
- Trust Pool Accretions
- Board of Investments Fees
- Secondary Lending Income
- Long Term Interest Rates
- Short Term Interest Rates
- Coal Severance Tax Collections

Coal severance tax collections are estimated via the coal severance tax methodology.

**Data Source(s):** Board of Investments, SBAS, *Wall Street Journal*, Wharton Econometrics Forecasting Associates (WEFA)

**Contacts:** Board of Investments

**Statute:** Title 17, Chapter 6, MCA

**% of Total FY 2000 General Fund Revenue:** 3.37%

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# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

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**Revenue Estimate Methodology:** The LFD uses a number of analytical techniques to develop relevant assumptions for this source of revenue. Historical data trends, economic conditions, input from industry experts, company surveys, and etc., are examples of information used to formulate these assumptions. The techniques used to develop these assumptions may vary from biennium to biennium and are highly dependent on availability of information, professional intuition/judgment, and a detailed analysis of the revenue source. The applicable methodology (formulas) and assumptions used by the LFD to develop a revenue estimate for this source are provided in a subsequent section of this document. The following summarizes the LFD process used to develop the revenue estimate.

The methodology used to forecast permanent trust interest earnings is a multi-step process. In order to estimate total investment earnings for the trust, income must be calculated on six separate components: 1) permanent trust pool interest; 2) interest on new deposits; 3) in-state investment interest; 4) short term interest earnings; 5) interest earned on other non-pool balances; and 6) non-pool interest earnings on Montana Science and Technology Alliance (MSTA) loans made from the trust.

The first step involves determining coupon interest income for the entire TFBP, by multiplying the par value of the portfolio times the coupon interest rate. Total income for the TFBP is then calculated by adding the TFBP coupon interest income with other income variables, including: pool short term interest, gains and losses income, Board of Investments fees, TFBP amortizations and accretions, and secondary lending income. Once total TFBP income is estimated, the portion of interest income attributable to the permanent trust fund is calculated based on the number of permanent trust fund shares relative to the total number of TFBP shares.

Investment income on new deposits is calculated by multiplying the forecast amount for quarterly coal severance tax collections (less the amount required to secure water development bonds) by the appropriate interest rate. The investable balance used varies in accordance with the timing of when new monies become available. For example, coal severance tax collections due for the first quarter of the biennium will earn interest at the short term (STIP) rate for one month, after which they will earn interest at the long term rate for the remainder of the biennium. (Coal severance tax collections are forecast as part of the coal severance tax methodology.)

In-state investment interest is determined by multiplying the amount of principal loaned times the interest rate charged on the loans. Additionally, because a portion of the trust is invested on a short term basis, an assumption is made for the balance of trust funds in STIP. This balance is then multiplied by the short term interest rate to determine short term interest income.

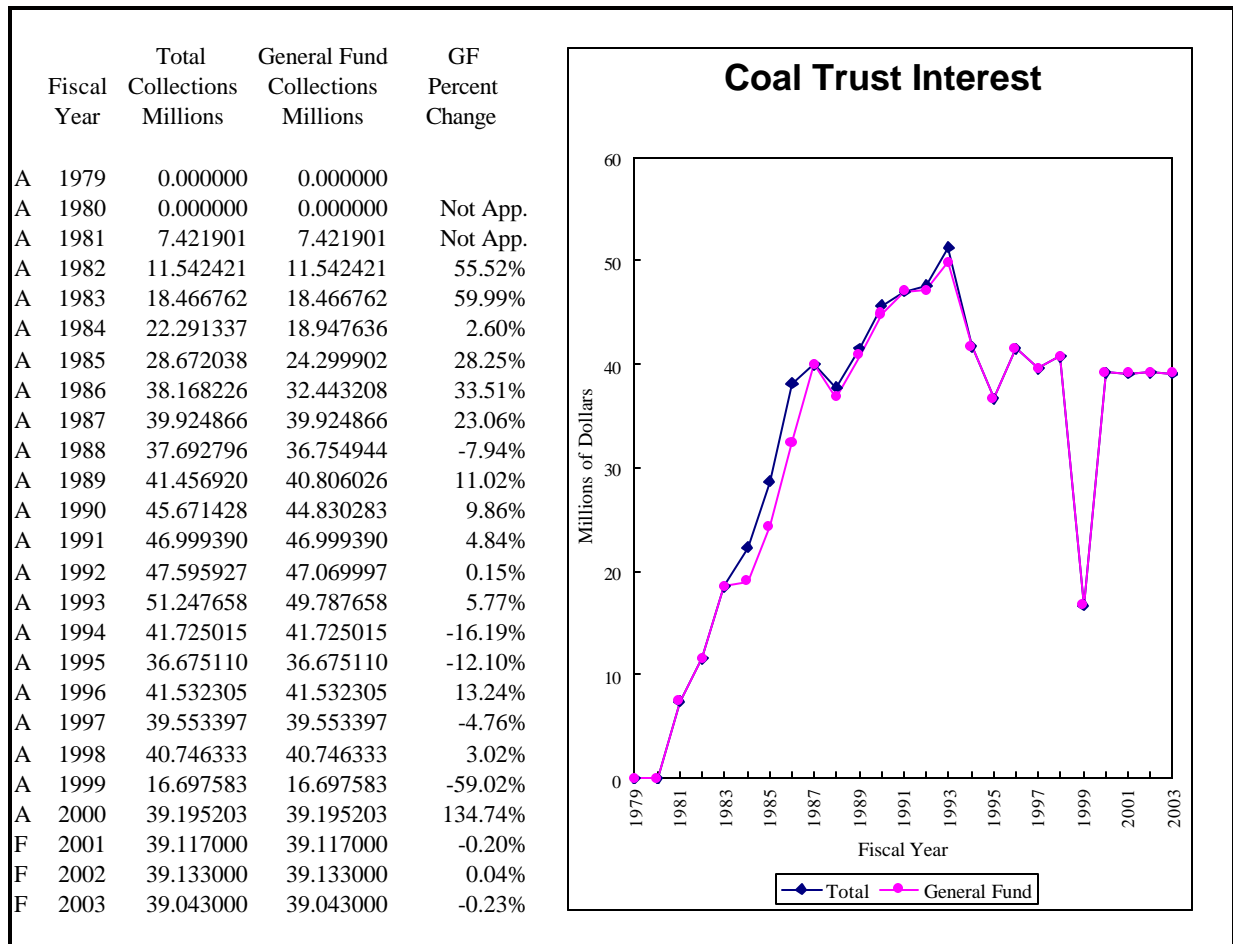
Once investment income has been calculated for these six components, the sum of these comprises total permanent trust investment income.

# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

#### Revenue Projection:



#### NOTE:

Due to the transition to a new state accounting system and other factors, an unusually large number of accounting errors occurred in fiscal 2000. The errors not only impact the general fund, but other funds as well. To correct these errors and ensure an accurate Comprehensive Annual Financial Report for the state, adjustments must be made in fiscal 2001 as prior year adjustments. All of these necessary adjustments may not be known at this time. The actual fiscal 2000 revenue shown in the table above was adjusted for these accounting errors, but has not been audited by the Legislative Auditor.

The general fund adjustment to this general fund revenue source that was known as of November 10, 2000 is -\$9,508,574.

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# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

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#### Forecast Methodology

$$\text{TPCI } t = \text{SUM}(i=1\dots n)(\text{PAR } t * \text{CR } t)_i$$

---where

TPCI = Trust Pool Coupon Interest

PAR = Security Par Value

CR = Coupon Interest Rate

t = Fiscal Year

i = Security in the Pool

$$\text{TTPI } t = \text{TPCI } t + \text{PSTI } t + \text{GLI } t + \text{BOIF } t + \text{AMT } t + \text{SECL } t + \text{ACCR } t$$

---where

TTPI = Total Trust Pool Income

TPCI = Trust Pool Coupon Interest

PSTI = Pool Short Term Interest

GLI = Gains and Losses Income

BOIF = Board of Investments Fees

AMT = Trust Pool Amortizations

SECL = Secondary Lending Income

ACCR = Trust Pool Accretions

t = Fiscal Year

$$\text{PTPI } t = (\text{PTS } t / \text{TPS } t) * \text{TTPI } t$$

---where

PTPI = Permanent Trust Pool Interest

PTS = Permanent Trust Shares

TPS = Total Bond Pool Shares

TTPI = Total Trust Pool Income

t = Fiscal Year

$$\text{NDI } t = ((\text{CST } t - \text{WBS } t) / 4) * (\text{LTIR } t / 12) * 22 + ((\text{CST } t - \text{WBS } t) / 4) * (\text{STIR } t / 12) * 4 + (\text{CST } t-1 - \text{WBS } t-1) * \text{LTIR } t-1$$

---where

NDI = New Deposits Interest

CST = Coal Severance Tax Allocation

WBS = Water Bond Subsidy

LTIR = Long Term Interest Rate

STIR = Short Term Interest Rate

t = Fiscal Year

$$\text{NPISI } t = \text{ISIB } t * \text{ISIR } t$$

---where

NPISI = Non-pool In-State Investment Interest

ISIB = In-State Investment Balance

ISIR = In-State Interest Rate

t = Fiscal Year

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# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

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$$\text{NPSTI } t = \text{STIB } t * \text{STIR } t$$

---where

NPSTI = Non-pool STIP Investment Interest

STIB = STIP Investment Balance

STIR = STIP Interest Rate

t = Fiscal Year

$$\text{NPOTI } t = \text{OTB } t * \text{OIR } t$$

---where

NPOTI = Non-pool Other Interest

OTB = Other Balance

OIR = Other Interest Rate

t = Fiscal Year

$$\text{NPMSI } t = \text{MSB } t * \text{MSR } t + \text{MSI } t$$

---where

NPMSI = Non-pool MSTA Interest

MSB = MSTA Balance Change

MSR = MSTA Interest Rate

MSI = MSTA Income

t = Fiscal Year

$$\text{TPTI } t = \text{PTPI } t + \text{NDI } t + \text{NPISI } t + \text{NPSTI } t + \text{NPOTI } t + \text{NPMSI } t$$

---where

TPTI = Total Permanent Trust Interest

PTPI = Permanent Trust Pool Interest

NDI = New Deposits Interest

NPISI = Non-pool In-State Investment Interest

NPSTI = Non-pool STIP Investment Interest

NPOTI = Non-pool Other Interest

NPMSI = Non-pool MSTA Interest

t = Fiscal Year

### Distribution Methodology

$$\text{GFINT } t = \text{TPTI } t * 100\%$$

---where

GFINT = General Fund Interest Earnings

TPTI = Total Permanent Trust Interest

t = Fiscal Year

# Legislative Fiscal Division

## Revenue Estimate Profile

### Coal Trust Interest

	t	Total Rev.	GF Rev.	Trust Shares	Total Shares	Trust Pool	Other Pool
	Fiscal	Millions	Millions	Millions	Millions	Interest	Income
						Millions	Millions
Actual	2000	39.195203	39.195203	4.313079	11.821189	78.564737	5.084671
Forecast	2001	39.117000	39.117000	4.313079	11.821189	78.564737	5.063916
Forecast	2002	39.133000	39.133000	4.313079	11.821189	78.564737	5.084671
Forecast	2003	39.043000	39.043000	4.313079	11.821189	78.564737	4.966292

	t	Pool Short	Gains				
	Fiscal	Term Interest	Losses	Fees	Amortizations	Lending	Accretions
		Millions	Millions	Millions	Millions	Millions	Millions
Actual	2000	2.402942	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2001	2.382187	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2002	2.402942	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2003	2.284563	0.697222	-0.197184	-1.337427	0.283705	3.235413

	t	Net Coal Tax	Bond	New Deposit		Non Pool	Non Pool	Non Pool
	Fiscal	New Deposit	Subsidy	Interest	Long Term	STIP	STIP Bal	STIP Int
		Millions	Millions	Millions	Rate	Rate	Millions	Millions
Actual	2000	0.000000	0.000000		7.3910%	6.2520%	15.334577	
Forecast	2001	0.000000	0.403796	0.000000	7.3690%	6.1980%	15.334577	0.950437
Forecast	2002	0.000000	0.445295	0.000000	7.3910%	6.2520%	15.334577	0.958718
Forecast	2003	0.000000	0.411765	0.000000	7.3780%	5.9440%	15.334577	0.911487

	t	Non Pool	Non Pool	Non Pool	Non Pool	Non Pool	Non Pool
	Fiscal	In-State	In-State Bal	In-State Int	Other	Other Bal	Other Int
		Rate	Millions	Millions	Rate	Millions	Millions
Actual	2000						
Forecast	2001	6.0000%	127.567412	7.654045	6.7759%	0.000000	0.000000
Forecast	2002	6.0000%	127.567412	7.654045	6.7759%	0.000000	0.000000
Forecast	2003	6.0000%	127.567412	7.654045	6.7759%	0.000000	0.000000

	t	Non Pool	Non Pool	Non Pool	Non Pool	Non Pool
	Fiscal	MSTA	MSTA Bal	MSTA Int.	MSTA Inc.	MSTA Total
		Rate	Millions	Millions	Millions	Millions
Actual	2000					
Forecast	2001	6.7759%	0.000000	0.000000	0.000000	0.000000
Forecast	2002	6.7759%	0.000000	0.000000	0.000000	0.000000
Forecast	2003	6.7759%	0.000000	0.000000	0.000000	0.000000



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# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

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**Revenue Description:** Lands granted by the federal government to the state for the benefit of public schools generate income. The common school trust is actually part of the trust and legacy trust fund that includes nine other trusts. Prior to fiscal 1996, income from the common school trust was deposited in the state equalization account. Beginning in fiscal 1996, this income was deposited in the general fund, as mandated by SB 83, passed by the 1995 legislature. The common school lands produce two kinds of revenue: 1) distributable income such as interest earnings, agricultural rents or crop shares, and timber sale revenue; and 2) permanent income that is returned to the trust such as income from the sale of minerals, land, and easements. Excluding timber revenue and after deducting 3.0 percent of the revenue for use by the Department of Natural Resources and Conservation (DNRC), distributable revenues are deposited 95.0 percent to the general fund and, due to Senate Bill 48 (discussed below), the remaining 5.0 percent is available to fund the Trust Land Management Division of DNRC. The 3.0 percent allocation to DNRC is used for resource development purposes. Timber revenue is first used by DNRC to fund its timber program with the remainder deposited into the general fund for technology equipment and training and for the support of public schools.

Senate Bill 48, passed by the 1999 legislature, provides for the diversion of the following funds for the purpose of funding the Trust Land Management Division in the DNRC: 1) mineral royalties; 2) revenues from the sale of easements; and 3) 5.0 percent of interest and income previously credited to the common school trust. The amount of the money diverted from the common school trust reduces the growth of the trust fund balance and, hence, reduces the amount of distributable interest earnings.

As of October 1, 1995, all fixed-income investments held by the state's major trust funds (which includes the trust and legacy fund of which the common school trust is a part), were transferred to a newly-created Trust Fund Bond Pool (TFBP). The majority of common school trust funds are invested as part of the TFBP. Some funds, however, are invested on a short term basis in the state's Short Term Investment Pool (STIP). The state Constitution prohibits the investment of common school trust funds in common stock.

**Applicable Tax Rate(s):** N/A

**Distribution:** As described above, interest and income from common school lands (excluding timber sales and amounts deducted to fund DNRC) is distributed 95.0 percent to the general fund. The remaining 5.0 percent is available to fund the Trust Land Management Division with the remainder deposited to the trust fund.

**Collection Frequency:** Revenue is received monthly, however, distribution to the general fund takes place three times per year.

#### **Applicable Assumptions and /or Relevant Indicators:**

- Gains and Losses Income
- Trust Pool Amortizations
- Trust Pool Accretions
- Board of Investments Fees
- Secondary Lending Income
- Long Term Interest Rates
- Short Term Interest Rates
- Trust and Legacy Income

**Data Source(s):** Board of Investments, DNRC - Centralized Services, SBAS, SABHRS, *Wall Street Journal*, Wharton Econometrics Forecasting Associates (WEFA)

**Contacts:** Department of Natural Resources and Conservation

**Statute:** Title 20, Chapter 9 and Title 77, Chapter 1, MCA

**% of Total FY 2000 General Fund Revenue:** 3.81%

**Revenue Estimate Methodology:** The LFD uses a number of analytical techniques to develop relevant assumptions for this Revenue Estimates as adopted by the Revenue and Taxation Committee

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# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

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source of revenue. Historical data trends, economic conditions, input from industry experts, company surveys, and etc., are examples of information used to formulate these assumptions. The techniques used to develop these assumptions may vary from biennium to biennium and are highly dependent on availability of information, professional intuition/judgment, and a detailed analysis of the revenue source. The applicable methodology (formulas) and assumptions used by the LFD to develop a revenue estimate for this source are provided in a subsequent section of this document. The following summarizes the LFD process used to develop the revenue estimate.

The methodology used to forecast common school interest and income is a multi-step process. Estimating total interest and income revenue involves calculating interest income and income derived from school lands, including timber sale revenue.

Interest Income - Interest income is derived from both investment of the common school trust funds, as well as interest on land sales and mineral royalties. In order to calculate total investment earnings for the trust, income must be calculated on three separate components: 1) common school trust portion of the TFBP interest; 2) interest on new deposits; and 3) short term interest earnings. The first step involves determining coupon interest income for the entire TFBP, by multiplying the par value of the portfolio times the coupon interest rate. Total income for the TFBP is then calculated by adding the TFBP coupon interest income with other income variables, including: pool short term interest gains and losses income, Board of Investments fees, TFBP amortizations and accretions, and secondary lending income. Once total TFBP income is estimated, the portion of interest income attributable to the trust and legacy trust fund is calculated based on the number of trust and legacy shares relative to the total number of TFBP shares.

Investment income on new deposits (less amounts used to fund the Trust Land Management Division) is calculated by multiplying the forecast amount for trust and legacy income by the appropriate interest rate. The interest rate and investable balance used varies in accordance with the timing of when new monies become available. For example, revenues received for the first month of the biennium will earn interest at the short term (STIP) rate for one month, after which they will earn interest at the long term rate for the remainder of the biennium. In addition, because a portion of the trust is invested on a short term basis, an assumption is made for the balance of trust funds in STIP. This balance is then multiplied by the short term interest rate to determine short term interest income.

Once investment income has been calculated for these three components, the sum of the three is multiplied by the percent of income attributable to the common school trust portion of the trust and legacy trust fund. The product is added to the amount of interest expected from land sales, mineral royalties, and interest on STIP investments, to comprise total common school interest income.

Income From School Lands - Common school income is estimated by first computing the total of six different types of revenue: timber sales, grazing fees, agricultural fees, miscellaneous fees, oil and gas leases, oil and gas penalties, and miscellaneous rentals. The estimate used for each of these sources comes from historical data trends, economic trends, industry input, etc. Once total income from common school lands (excluding timber sales) is determined, the 3.0 percent of revenues allocated to DNRC for resource development is calculated.

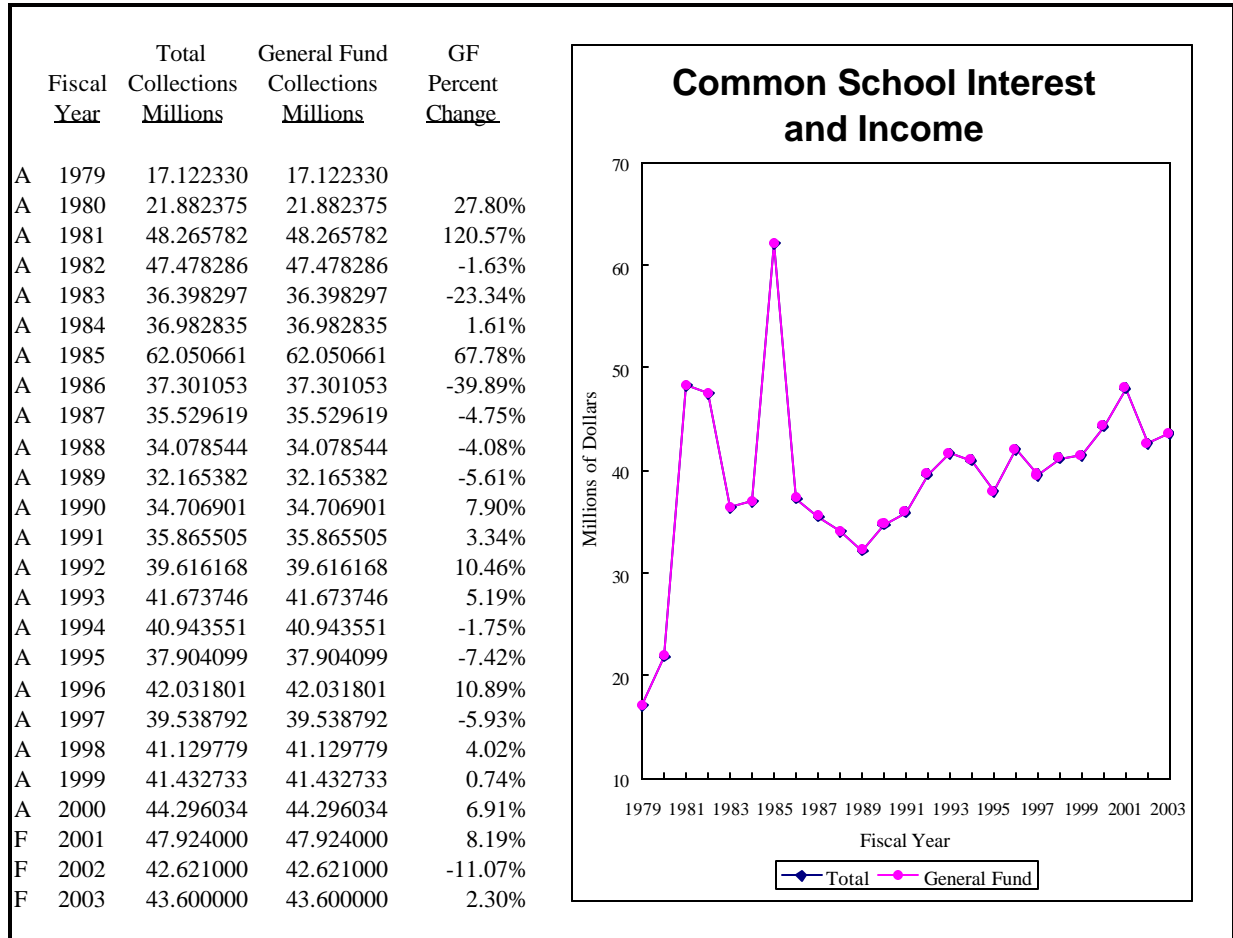
# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

Total interest and income is calculated by first adding total common school income, total common school interest, and timber sale revenue, less the resource development allocation. Timber sale revenue is reduced by the amount needed to fund DNRC and part of the remainder is deposited to the general fund for school technology acquisition and, along with the rest of the interest and income, the rest is then multiplied by 95 percent to determine the amount of funds to be deposited into the general fund.

#### Revenue Projection:



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# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

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#### Forecast Methodology

$$\text{TPCI } t = \text{SUM}(i=1\dots n)(\text{PAR } t * \text{CR } t)_i$$

---where

TPCI = Trust Pool Coupon Interest

PAR = Security Par Value

CR = Coupon Interest Rate

t = Fiscal Year

i = Security in the Pool

$$\text{TTPI } t = \text{TPCI } t + \text{PSTI } t + \text{GLI } t + \text{BOIF } t + \text{AMT } t + \text{SECL } t + \text{ACCR } t$$

---where

TTPI = Total Trust Pool Income

TPCI = Trust Pool Coupon Interest

PSTI = Pool Short Term Interest

GLI = Gains and Losses Income

BOIF = Board of Investments Fees

AMT = Trust Pool Amortizations

SECL = Secondary Lending Income

ACCR = Trust Pool Accretions

t = Fiscal Year

$$\text{TLPI } t = (\text{TLTS } t / \text{TPS } t) * \text{TTPI } t$$

---where

TLPI = Trust & Legacy Pool Interest

TLTS = Trust & Legacy Trust Shares

TPS = Total Bond Pool Shares

TTPI = Total Trust Pool Income

t = Fiscal Year

$$\text{NDI } t = (\text{TLI } t / 12) * (\text{LTIR } t / 12) * 62 + (\text{TLI } t / 12) * \text{STIR } t + \text{TLI } t-1 * \text{LTIR } t-1$$

---where

NDI = New Deposits Interest

TLI = Trust and Legacy Permanent Income Less Amount Funding Trust

Land Management Division

LTIR = Long Term Interest Rate

STIR = Short Term Interest Rate

t = Fiscal Year

$$\text{NPSTI } t = \text{STIB } t * \text{STIR } t$$

---where

NPSTI = Non Pool STIP Investment Interest

STIB = STIP Investment Balance

STIR = STIP Interest Rate

t = Fiscal Year

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# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

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$$\text{TTLI } t = \text{TLPI } t + \text{NDI } t + \text{NPSTI } t$$

---where

TTLI = Total Trust and Legacy Interest

TLPI = Trust and Legacy Pool Interest

NDI = New Deposits Interest

NPSTI = Non Pool STIP Investment Interest

t = Fiscal Year

$$\text{INC } t = \text{GF } t + \text{AF } t + \text{MF } t + \text{OGL } t + \text{OGP } t + \text{MR } t$$

---where

INC = Common School Income

GF = Grazing Fees

AF = Agricultural Fees

MF = Miscellaneous Fees

OGL = Oil and Gas Leases

OGP = Oil and Gas Penalties

MR = Miscellaneous Rentals

t = Fiscal Year

$$\text{INT } t = \text{ILS } t + \text{IS } t + (\text{TTLI } t * \text{CSP } t)$$

---where

INT = Common School Interest

ILS = Interest on Land Sales

IS = Interest on STIP Investments

TTLI = Total Trust and Legacy Interest

CSP = Common School Trust Percent

t = Fiscal Year

$$\text{RDA } t = \text{INC } t * 3.0\%$$

---where

RDA = Resource Development Allocation

INC = Common School Income

t = Fiscal Year

$$\text{TII } t = (\text{INC } t + \text{INT } t + \text{TS } t - \text{RDA } t - \text{TSST } t) * 95\% + \text{TSST } t$$

---where

TII = Total Interest and Income

INC = Common School Income

INT = Common School Interest

TS = Timber Sales Less Amount Funding Timber Sales Program

RDA = Resource Development Allocation

TSST = Timber Sales For School Technology Acquisition

t = Fiscal Year

# Legislative Fiscal Division

## Revenue Estimate Profile

### Common School Interest and Income

#### Distribution Methodology

$$\text{GFINT } t = \text{TII } t * 100\%$$

---where

GFINT = General Fund Interest Earnings

TII = Total Interest and Income

t = Fiscal Year

	t	Total Rev.	GF Rev.	Trust Shares	Total Shares	Trust Pool	Other Pool	Common
	<u>Fiscal</u>	<u>Millions</u>	<u>Millions</u>	<u>Millions</u>	<u>Millions</u>	<u>Interest</u>	<u>Income</u>	<u>School Share</u>
						<u>Millions</u>	<u>Millions</u>	<u>T&amp;L</u>
Actual	2000	44.296034	44.296034	3.583217	11.821189	78.564737	5.084671	0.938562
Forecast	2001	47.924000	47.924000	3.583217	11.821189	78.564737	5.077838	0.938562
Forecast	2002	42.621000	42.621000	3.583217	11.821189	78.564737	5.084671	0.938562
Forecast	2003	43.600000	43.600000	3.583217	11.821189	78.564737	4.938141	0.938562

	t	Pool Short	Gains	Fees	Amortizations	Lending	Accretions
	<u>Fiscal</u>	<u>Term Interest</u>	<u>Losses</u>	<u>Millions</u>	<u>Millions</u>	<u>Millions</u>	<u>Millions</u>
		<u>Millions</u>	<u>Millions</u>				
Actual	2000	2.402942	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2001	2.396109	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2002	2.402942	0.697222	-0.197184	-1.337427	0.283705	3.235413
Forecast	2003	2.256412	0.697222	-0.197184	-1.337427	0.283705	3.235413

	t	Trust Income	Trust Land	New Deposit	Long Term	Non Pool	Non Pool	Non Pool
	<u>Fiscal</u>	<u>New Deposit</u>	<u>Admin.</u>	<u>Interest</u>	<u>Rate</u>	<u>STIP</u>	<u>STIP Bal</u>	<u>STIP Int</u>
		<u>Millions</u>	<u>Millions</u>	<u>Millions</u>		<u>Rate</u>	<u>Millions</u>	<u>Millions</u>
Actual	2000	10.962021	0.000000					
Forecast	2001	6.505141	-3.478551	0.253308	7.3690%	6.1980%	11.676486	0.723709
Forecast	2002	7.111158	-3.742886	0.757307	7.3910%	6.2520%	11.676486	0.730014
Forecast	2003	8.194991	-3.737578	1.322663	7.3780%	5.9440%	11.676486	0.694050

**Legislative Fiscal Division**  
**Revenue Estimate Profile**  
**Common School Interest and Income**

	t Fiscal	Grazing Millions	Agriculture Millions	Misc. Millions	O&G Lease Millions	O&G Bonus Millions	O&G Penalty Millions	Misc. Millions
Actual	2000	4.065911	9.053155	0.000000	1.328220	1.277231	0.261334	1.127779
Forecast	2001	4.765911	9.030172	0.000000	1.343636	6.682821	0.222374	1.228463
Forecast	2002	4.765911	9.023642	0.000000	1.399842	0.515021	0.220232	1.366014
Forecast	2003	4.765911	9.152148	0.000000	1.480473	0.547065	0.221141	1.573707

	t Fiscal	Int. Land Millions	Int. STIP Millions	Int. Trust Millions	Timber Millions	Res. Dev. Millions	Net Millions	Timber Not Subject 95% Millions
Actual	2000	0.000566	0.706653	23.905761	5.379555	-0.513416	44.263112	
Forecast	2001	0.000397	0.880758	24.712901	2.253294	-0.698201	47.923900	0.450000
Forecast	2002	0.000268	0.789691	25.193796	2.069690	-0.518720	42.621318	0.744000
Forecast	2003	0.000175	0.768211	25.648976	2.200242	-0.532213	43.600544	1.320000





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# Legislative Fiscal Division

## Revenue Estimate Profile

### Treasury Cash Account Interest

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**Revenue Description:** The Department of Commerce Board of Investments is responsible for investing all state funds. Title 17, Chapter 6, MCA, provides guidelines under which the funds must be invested. Unless specifically stated by statute, all interest earned on these investments is deposited in the general fund account. Treasury cash is invested in a mixture of short and medium-term investments. Consequently, the interest assumptions adopted by the legislature incorporate a blend of short and intermediate-term rates. When needed to address cash flow problems, the state typically issues tax and revenue anticipation notes (TRANS). The legislature would then adopt TRANS issuance assumptions, since this affects the average investable balance. TRANS are anticipated at \$20.0 million in each of the 2003 biennium.

**Applicable Tax Rate(s):** N/A

**Distribution:** All investment earnings on the treasury cash account (TCA) are deposited into the general fund.

**Collection Frequency:** On-going.

**Applicable Assumptions and/or Relevant Indicators:**

- Short Term Interest Rate
- TCA Interest Rate
- TRANS Interest Spread (if needed)
- Treasury Cash Average Balance
- TRANS Issue Size (if needed)

**Data Source(s):** SBAS, SABHRS, Department of Administration, *Wall Street Journal*, Wharton Econometrics Forecasting Associates (WEFA).

**Contacts:** Department of Administration

**Statute:** Title 17, Chapter 6, MCA

**% of Total FY 2000 General Fund Revenue:** 1.38%

**Revenue Estimate Methodology:** The LFD uses a number of analytical techniques to develop relevant assumptions for this source of revenue. Historical data trends, economic conditions, input from industry experts, company surveys, and etc., are examples of information used to formulate these assumptions. The techniques used to develop these assumptions may vary from biennium to biennium and are highly dependent on availability of information, professional intuition/judgment, and a detailed analysis of the revenue source. The applicable methodology (formulas) and assumptions used by the LFD to develop a revenue estimate for this source are provided in a subsequent section of this document. The following summarizes the LFD process used to develop the revenue estimate.

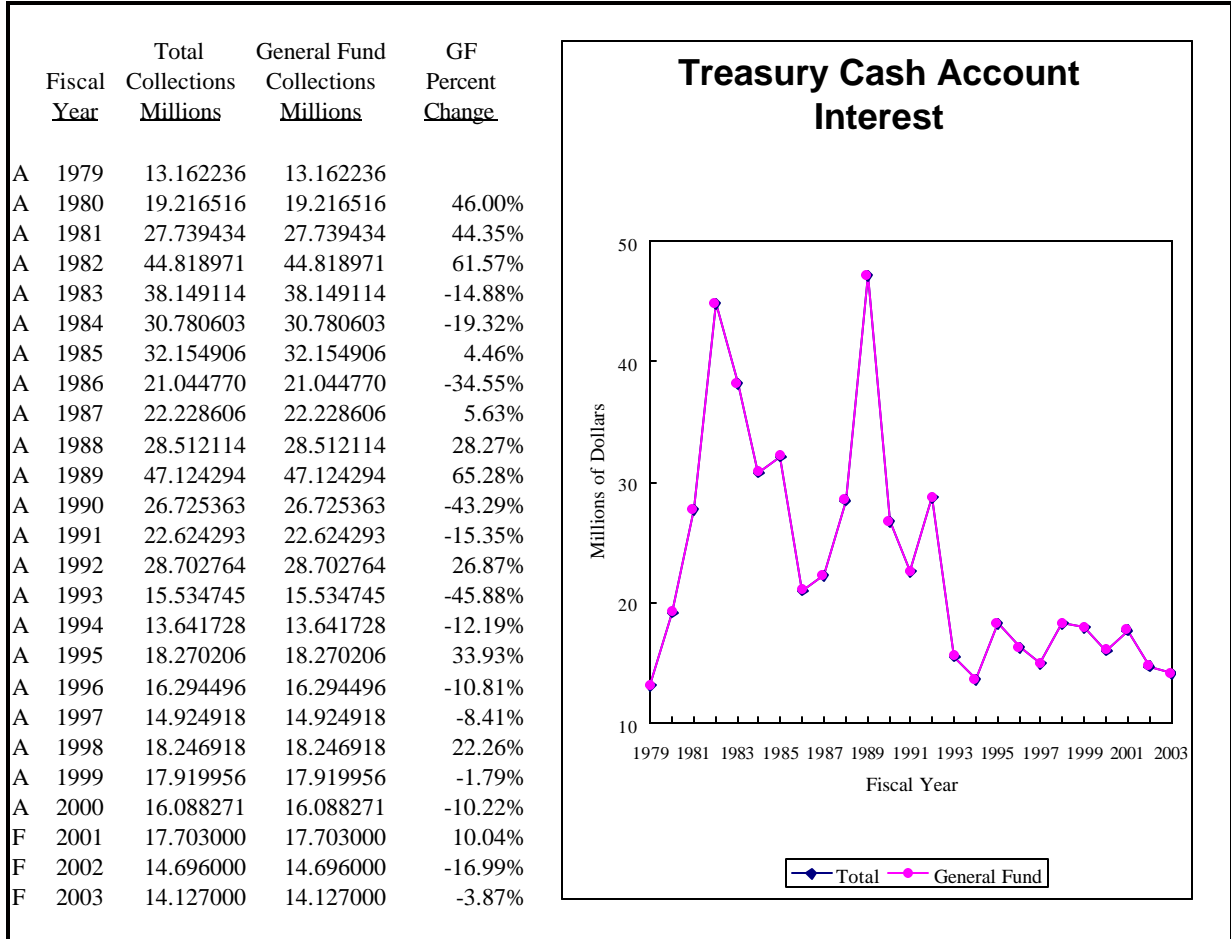
In order to estimate TCA investment earnings, the LFD begins by determining what level of cash will be available to earn interest. This step involves consideration of four key variables: 1) the average balance of the TCA; 2) if needed, the level of TRANS to be issued and the term; 3) major legislation changes impacting cash; and 4) any other major cash balance changes that may occur. The sum of these variables, multiplied by the short term interest rate, provides the estimated revenue for TCA earnings.

# Legislative Fiscal Division

## Revenue Estimate Profile

### Treasury Cash Account Interest

**Revenue Projection:**



# Legislative Fiscal Division

## Revenue Estimate Profile

### Treasury Cash Account Interest

#### Forecast Methodology

$$BBAL\ t = BBAL\ t-1 + (MCBC\ t - MCBC\ t-1) / 2$$

---where

BBAL = Base Average Balance

MCBC = Major Cash Balance Changes

t = Fiscal Year

$$AVBAL\ t = BBAL\ t + (TRANS\ t * TLEN\ t) + MLC\ t$$

---where

AVBAL = Average Balance of Treasury Cash Account

BBAL = Base Average Balance

TRANS = Tax and Revenue Anticipation Notes

TLEN = TRANS Length of Note

MLC = Major Legislation Impacting Cash

$$TCAI\ t = AVBAL\ t * STIR\ t$$

---where

TCAI = Treasury Cash Account Interest

AVBAL = Average Balance of Treasury Cash Account

STIR = Short Term Interest Rate

t = Fiscal Year

#### Distribution Methodology

$$GFINT\ t = TCAI\ t * 100\%$$

---where

GFINT = General Fund Interest Earnings

TCAI = Treasury Cash Account Interest

t = Fiscal Year

	t	Total Rev.	GF Rev.	Avg. Bal.	Interest	Issue	TRANS
	Fiscal	Millions	Millions	Millions	Rate	Rate	Cost
Actual	2000	16.088271	16.088271	303.627590	0.052987	0.000000	0.000000
Forecast	2001	17.703000	17.703000	268.828705	0.065854	0.042519	0.000000
Forecast	2002	14.696000	14.696000	222.702750	0.065991	0.042607	0.639105
Forecast	2003	14.127000	14.127000	222.702750	0.063437	0.040958	0.614370

	t	Base Bal.	TRANS	TRANS	Legislation	DOT Bal.	GF Bal.
	Fiscal	Millions	Millions	Length	Millions	Millions	Millions
Actual	2000	303.628000	0.000000	0.000000	0.000000	28.702840	183.800000
Forecast	2001	268.828705	0.000000	0.000000	0.000000	20.000000	116.578000
Forecast	2002	207.702750	20.000000	0.750000	0.000000	0.000000	116.578000
Forecast	2003	207.702750	20.000000	0.750000	0.000000	0.000000	116.578000

