

Maine Public Employees
Retirement System
State Employee and Teacher
Retirement Program
Actuarial Valuation Report

as of June 30, 2009

Produced by Cheiron



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Classic Values, Innovative Advice



November 18, 2009

Board of Trustees Maine Public Employees Retirement System #46 State House Station Augusta, Maine 04333-0046

Dear Members of the Board:

We are pleased to submit the June 30, 2009 Actuarial Valuation Report for the Plans in the State Employee and Teacher Retirement Program of the Maine Public Employees Retirement System. This report contains information on assets, liabilities, and contributions of the System's Retirement Programs, as well as the required accounting statement disclosures under the Government Accounting Standards Board Statement #25.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. The actuarial assumptions reflect our understanding of the likely future experience of the plans in the program and the assumptions as a whole represent our best estimate for the future experience of the those plans. The accuracy of the results presented in this report is dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the plans could vary from our results.

We hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, and that as Members of the American Academy of Actuaries, we meet the Qualification Standards to render the opinion contained in this report.

Sincerely, Cheiron

Gene Kalwarski, FSA, EA Consulting Actuary Fiona E. Liston, FSA, EA Consulting Actuary

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FOREWORD

Cheiron has performed the actuarial valuation of the plans in the Maine Public Employees Retirement System State Employee and Teacher Program as of June 30, 2009. The purpose of this report is to:

- 1) **Measure and disclose**, as of the valuation date, the financial condition of the plans in the Program;
- 2) **Indicate trends**, both historical and prospective, in the financial condition of the plans in the Program;
- 3) **Report on the contribution rate** developed in this valuation (actual contributions to be paid by the State for Fiscal Years 2010 and 2011 were developed in the 2008 valuation report); and
- 4) **Provide specific information** and documentation required by the Government Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our key findings and discloses important trends experienced by the plans in the Program in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV develops the State contribution rates that would be applied absent the State's biennial budgeting process.

Section V includes the required disclosures under GASB Statement No. 25.

Finally, at the end of this report we present appendices that contain a summary of the:

- Program membership by plan at the valuation date (Appendix A)
- the actuarial methods and assumptions used in the valuation (Appendix B)
- major benefit provisions of the Program and the various plans included in the Program (Appendix C)



SECTION I BOARD SUMMARY

General Comments

The State of Maine's annual contributions to the plans in this Program are determined on a biennial basis (in every even-numbered year). As such, last year's valuation (2008) produced employer contribution rates for each plan, which are used in the State's budgeting process to develop applicable State budget contributions for FY 10 and FY 11. This valuation develops the rates that would be used for FY 11 absent this budgeting process and provides an indication as to whether the rates are trending up or down since that report.

The State of Maine composite rate produced by the June 30, 2008 valuation for all plans in the State Employee and Teacher Retirement Program was 17.79% of payroll. The State composite rate produced in this valuation is 21.79% of payroll.

State law requires that a portion of any General Fund surplus must be allocated to the Maine Public Employee Retirement System (MainePERS) on an annual basis. It is our understanding that there was no surplus in the Fiscal Year 2009 budget and so no allocation took place.

There were no changes in actuarial assumptions or program or plan provisions since the 2008 valuation.

Experience from July 1, 2008 through June 30, 2009 (FY 2009)

As of June 30, 2009, the Program had an Unfunded Actuarial Liability (UAL) of \$3.995 billion. This represents an increase of \$959 million from the \$3.036 billion UAL measured as of June 30, 2008. The UAL was expected to increase to \$3.061 billion and so the experience of the Program reflected a net loss of \$934 million over what was anticipated.

Two sources contributed to that \$934 million net loss; investment performance measured on an actuarial smoothing basis produced an actuarial loss of \$843 million, and the overall liability experience for FY 2009 produced a loss of \$91 million.

Historical Trends

It is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

On the next page, we present a series of charts which display key historical trends in the Program's financial condition. Following the historical review, we present projections of the probable condition of the Program into the future under various market return scenarios.



SECTION I BOARD SUMMARY

Growth in Assets

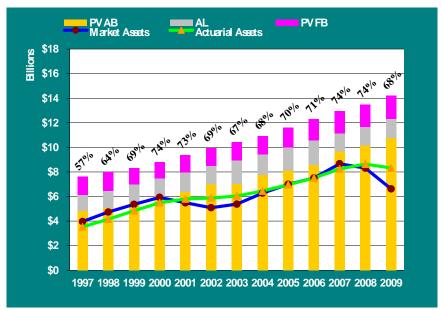
The first graph below illustrates how well the actuarial smoothing method has insulated the Program from market volatility. There has been an upward trend in the market value of assets since 1997, with the exception of 2001, 2002, 2008 and 2009. Due to the asset smoothing method in place, the actuarial value of assets continued to increase over these years, with the exception of 2009. Because of unfavorable investment returns in FY 2009, the market value of assets now lags behind the actuarial value of assets.

Market Value of Assets —— Actuarial Value of Assets \$10 \$8.3 \$9 \$8 \$7 \$5.9 \$5.5 \$6 \$5 \$4.0 \$4 \$3 \$2 \$1

Assets and Liabilities

The next graph illustrates the progress of assets against liabilities. The three colored bars represent the three different measures of liability mentioned in Section III of this report. Used for funding purposes, the actuarial liability (AL) is represented by the top of the grey bar. We compare the actuarial value of assets to this measure of liability in developing the funding ratios. These are the percentages shown in the graph labels.

The chart illustrates that the funded ratio, which had been improving since 2002, significantly declined in the past year. At the top of the pink bars, there is the Present Value of Future Benefits (PVFB). This is the amount needed to provide all projected benefits for the current participants and their beneficiaries. The yellow bars represent the Present Value of Accrued Benefits (PVAB) as of the valuation date.



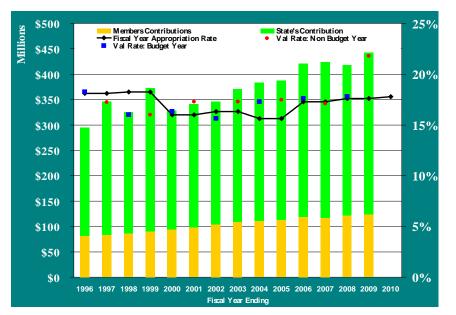


SECTION I BOARD SUMMARY

Contributions

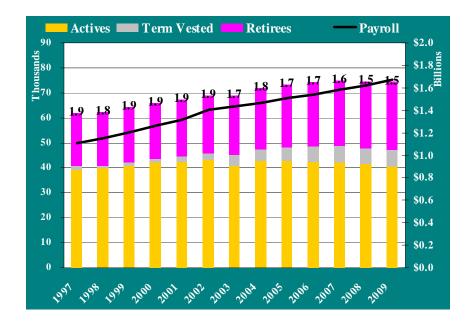
This graph shows the history of contributions to the Program both as dollar amounts and as a percentage of payroll. The stacked bars in this graph show the contributions made by both the State and the members in dollar terms. These bars should be read in relation to the axis on the left-hand side. The solid black line shows the State's Fiscal Year Appropriation contribution rate as a percent of payroll and should reference the right-hand axis. In addition red and blue dots show the computed contribution rates coming out of each year's valuation.

The member contribution rate is set by the statutes, depending on the plan in which the member participates. The employer contribution rate paid by the State is set by the actuarial process, on a biennial basis. The contribution rate paid during FY 2009 was based on the June 30, 2006 valuation.



Participant Trends

As with many funds in this country, there has been a steady growth in the number of retired members as the Program has matured. The bars in the graph below show the number of active members, terminated vesteds and retirees over the last 13 years. The labels above each bar show the "support ratio" defined as the number of active members per retiree. We anticipate this support ratio will continue to decline as the baby boom generation enters retirement. The valuation process takes this trend into account and the projections on the next two pages show that assets will be sufficient to meet this growing demand.





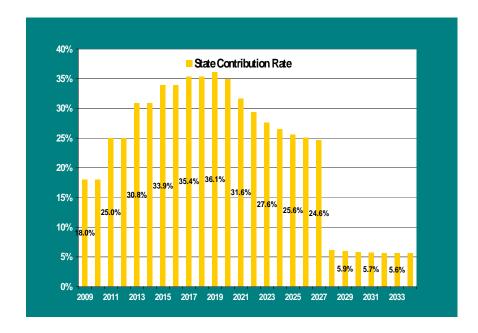
SECTION I BOARD SUMMARY

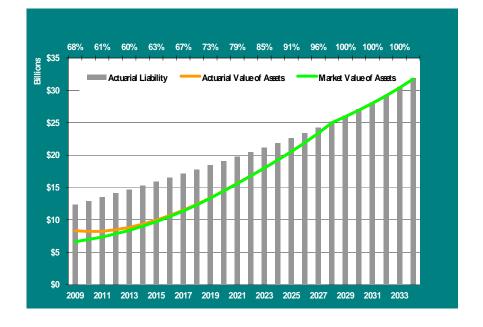
Projections

Base Line Projections

The charts on this page show the expected progress of the Program's funding status over the next 25 years measured in terms of the employer contribution rate and the funding ratio. The first chart below shows that the State's composite contribution rate is projected to increase as the remaining asset loss is recognized through 2027, if all actuarial assumptions are met, including the 7.75% investment assumption. In 2028, the UAL is expected to be paid off, and the State's contribution rate drops to the Normal Cost.

The next chart compares Assets and Liabilities and shows that if all actuarial assumptions are exactly met, the Program's funded ratio is projected to improve from the current level of 68% to 100% funding in 2028, the year that the Maine Constitution mandates that the Program's UAL is to be paid off.





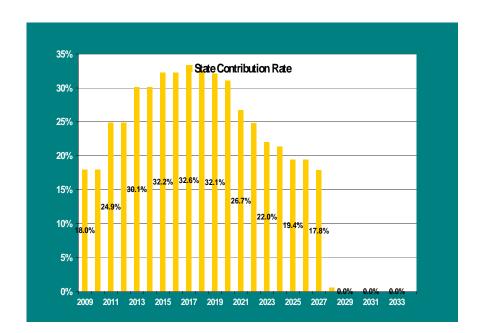


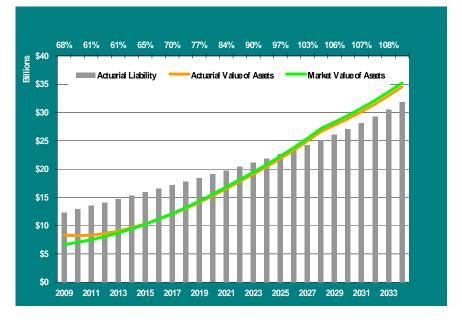
SECTION I BOARD SUMMARY

Projections with Asset Returns of 8.75%

The future funding of this Program will be largely driven by the investment earnings. Relatively minor changes in the market returns can have significant effects on the Program's status. The chart below shows that if the Program were to earn 8.75% annual returns each year, the contribution rate would first grow, as last year's investment losses are recognized and then decline to 0% by 2028.

Assuming the same 8.75% return on investments, this next chart shows that the Program's funded level would increase to reach 100% by 2028 and then escalate to 108% by 2034.





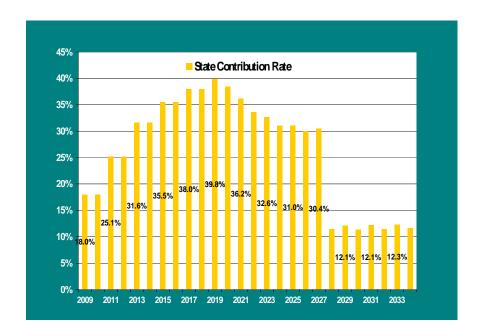


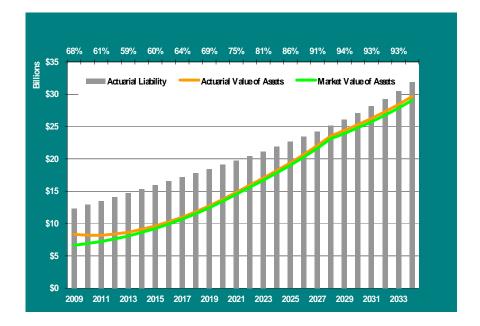
SECTION I BOARD SUMMARY

Projections with Asset Returns of 6.75%

Just as returns in excess of the earnings assumption will lead to declining State contributions and an improved funded status, the opposite will occur if investment earnings are below the assumption. The graphs on this page show the projections under a 6.75% annual return scenario. The State's contribution rate would rise to nearly 40% of payroll in order to meet the requirement of full funding in 2028.

The Program's funded ratio would initially decline and then increase to 93% over the next 24 years. In this scenario, the Program would likely still have an Unfunded Actuarial Liability at the end of the current amortization period. The Constitutional Amendment would be satisfied, in that the UAL existing on July 1, 1997 would be paid off by 2028, but new losses would create additional UAL that would have to be funded.







Summary of Principal Results								
Total State Employee and Teacher Program Valuation as of: June 30, 2008 June 30, 2009 % Change								
Participant Counts			-					
Actives	41,561	40,486	(2.6%)					
Retired Members	18,746	19,368	3.3%					
Beneficiaries of Retirees	5,588	5,797	3.7%					
Survivors of Deceased Members	797	696	(12.7%)					
Disabled Members	1,690	1,683	(0.4%)					
Deferred "Vested" Members	6,898	6,599	(4.3%)					
Total	75,280	74,629	(0.9%)					
Annual Salaries of Active Members	\$ 1,619,705,846	\$ 1,699,885,710	3.1%					
Annual Payments to Benefit Recipients	\$ 485,529,823	\$ 525,718,969	8.3%					
Assets and Liabilities								
Total Actuarial Liability	\$11,668,032,511	\$ 12,321,219,332	5.6%					
Assets/Actuarial (Smoothed)	8,631,557,629	8,325,951,236	(3.5%)					
Unfunded Actuarial Liability	\$ 3,036,474,882	\$ 3,995,268,096	31.6%					
Funding Ratio	73.98%	67.57%						
Present Value of Accrued Benefits	\$ 10,166,502,044	\$ 10,776,571,716	6.0%					
Assets/Market Value	8,311,970,624	6,620,849,642	(20.3%)					
Unfunded PVAB	\$ 1,854,531,420	\$ 4,155,722,074	124.1%					
Accrued Benefit Funding Ratio	81.76%	61.44%						
Contributions as a Percentage of Payroll	Fiscal Year 2010	Fiscal Year 2011						
Normal Cost Contribution	5.52%	5.52%						
Unfunded Actuarial Liability Contribution	<u>12.27%</u>	<u>16.27%</u>						
Total Contribution	17.79%	21.79%						



Summary of Principal Results							
Teachers							
Valuation as of:	June 30, 2008	June 30, 2009	% Change				
Participant Counts							
Actives	27,227	26,450	(2.9%)				
Retired Members	10,746	11,258	4.8%				
Beneficiaries of Retirees	2,419	2,540	5.0%				
Survivors of Deceased Members	328	287	(12.5%)				
Disabled Members	690	691	0.1%				
Deferred "Vested" Members	5,085	4,819	(5.2%)				
Total	46,495	46,045	(1.0%)				
Annual Salaries of Active Members	\$ 1,041,045,352	\$ 1,065,781,637	2.4%				
Annual Payments to Benefit Recipients	\$ 281,146,872	\$ 308,769,707	9.8%				
Assets and Liabilities							
Total Actuarial Liability	\$ 7,528,390,936	\$ 7,965,675,793	5.8%				
Assets/Actuarial (Smoothed)	5,563,681,745	5,389,933,203	(3.1%)				
Unfunded Actuarial Liability	\$ 1,964,709,191	\$ 2,575,742,590	31.1%				
Funding Ratio	73.90%	67.66%					
Present Value of Accrued Benefits	\$ 6,464,527,048	\$ 6,875,499,357	6.4%				
Assets/Market Value	5,357,684,118	4,286,109,335	(20.0%)				
Unfunded PVAB	\$ 1,106,842,930	\$ 2,589,390,022	133.9%				
Accrued Benefit Funding Ratio	82.88%	62.34%					
Contributions as a Percentage of Payroll	Fiscal Year 2010	Fiscal Year 2011					
Normal Cost Contribution	5.25%	5.25%					
Unfunded Actuarial Liability Contribution	<u>12.35%</u>	<u>16.44%</u>					
Total State Contribution	17.60%	21.69%					



Summary of Principal Results State Employees (Regular and Special Plans)					
Valuation as of:	June 30, 2008	June 30, 2009	% Change		
Participant Counts					
Actives	14,334	14,036	(2.1%)		
Retired Members	8,000	8,110	1.4%		
Beneficiaries of Retirees	3,169	3,257	2.8%		
Survivors of Deceased Members	469	409	(12.8%)		
Disabled Members	1,000	992	(0.8%)		
Deferred "Vested" Members	1,813	1,780	(1.8%)		
Total	28,785	28,584	(0.7%)		
Annual Salaries of Active Members	\$ 578,660,494	\$ 604,104,073	4.4%		
Annual Payments to Benefit Recipients	\$ 204,382,951	\$ 216,949,262	6.1%		
Assets and Liabilities					
Total Actuarial Liability	\$ 4,139,641,575	\$ 4,355,543,539	5.2%		
Assets/Actuarial (Smoothed)	3,067,875,884	2,936,018,033	(4.3%)		
Unfunded Actuarial Liability	\$ 1,071,765,691	\$ 1,419,525,506	32.4%		
Funding Ratio	74.11%	67.41%			
Present Value of Accrued Benefits	\$ 3,701,974,996	\$ 3,901,072,359	5.4%		
Assets/Market Value	2,954,286,506	2,334,740,307	(21.0%)		
Unfunded PVAB	\$ 747,688,490	\$ 1,566,332,052	109.5%		
Accrued Benefit Funding Ratio	79.80%	59.85%			
Contributions as a Percentage of Payroll	Fiscal Year 2010	Fiscal Year 2011			
Normal Cost Contribution	6.00%	6.00%			
Unfunded Actuarial Liability Contribution	12.12%	<u>15.98%</u>			
Total State Contribution	18.12%	21.98%			



	Summary of Principal Results State Employees (Regular Plan)		
Valuation as of:	June 30, 2008	June 30, 2009	% Change
Participant Counts			
Actives	12,409	12,159	(2.0%)
Retired Members	7,209	7,315	1.5%
Beneficiaries of Retirees	2,828	2,904	2.7%
Survivors of Deceased Members	456	402	(11.8%)
Disabled Members	929	920	(1.0%)
Deferred "Vested" Members	1,813	1,780	(1.8%)
Total	25,644	25,480	(0.6%)
Annual Salaries of Active Members	\$ 484,981,869	\$ 506,742,352	4.5%
Annual Payments to Benefit Recipients	\$ 176,268,715	\$ 187,465,642	6.4%
Assets and Liabilities			
Total Actuarial Liability	\$ 3,505,104,076	\$ 3,691,954,089	5.3%
Assets/Actuarial (Smoothed)	2,644,793,698	2,550,177,993	(3.6%)
Unfunded Actuarial Liability	\$ 860,310,378	\$ 1,141,776,096	32.7%
Funding Ratio	75.46%	69.07%	
Present Value of Accrued Benefits	\$ 3,126,971,043	\$ 3,299,775,687	5.5%
Assets/Market Value	2,546,869,114	2,027,917,841	(20.4%)
Unfunded PVAB	\$ 580,101,929	\$ 1,271,857,846	119.2%
Accrued Benefit Funding Ratio	81.45%	61.46%	
Contributions as a Percentage of Payroll	Fiscal Year 2010	Fiscal Year 2011	
Normal Cost Contribution	5.75%	5.75%	
Unfunded Actuarial Liability Contribution	<u>11.61%</u>	<u>15.32%</u>	
Total State Contribution	17.36%	21.07%	



SECTION I BOARD SUMMARY

Summary of Principal Results State Employees (Special Plans - Composite)					
Valuation as of:	June 30, 2008	June 30, 2009	% Change		
Participant Counts					
Actives	1,925	1,877	(2.5%)		
Retired Members	791	795	0.5%		
Beneficiaries of Retirees	341	353	3.5%		
Survivors of Deceased Members	13	7	(46.2%)		
Disabled Members	71	72	1.4%		
Deferred "Vested" Members	0	0	0.0%		
Total	3,141	3,104	(1.2%)		
Annual Salaries of Active Members	\$ 93,678,625	\$ 97,361,721	3.9%		
Annual Payments to Benefit Recipients	\$ 28,114,236	\$ 29,483,620	4.9%		
Assets and Liabilities					
Total Actuarial Liability	\$ 634,537,499	\$ 663,589,450	4.6%		
Assets/Actuarial (Smoothed)	423,082,186	<u>385,840,040</u>	(8.8%)		
Unfunded Actuarial Liability	\$ 211,455,313	\$ 277,749,410	31.4%		
Funding Ratio	66.68%	58.14%			
Present Value of Accrued Benefits	\$ 575,003,953	\$ 601,296,672	4.6%		
Assets/Market Value	407,417,392	306,822,466	(24.7%)		
Unfunded PVAB	\$ 167,586,561	\$ 294,474,206	75.7%		
Accrued Benefit Funding Ratio	70.85%	51.03%			
Contributions as a Percentage of Payroll	Fiscal Year 2010	Fiscal Year 2011			
Normal Cost Contribution	7.31%	7.28%			
Unfunded Actuarial Liability Contribution	<u>14.77</u> %	<u>19.40%</u>			
Total State Contribution	22.08%	26.68%			

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SECTION II ASSETS

Pension program assets play a key role in the financial operation of the Program and in the decisions the Trustees make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, State Contributions, and the ultimate security of participants' benefits.

The assets of the Program include amounts contributed for all programs for which the System is the Plan Sponsor, namely, the State Employee and Teacher Retirement Program, the Judicial Retirement Program, the Legislative Retirement Program, the Participating Local District Retirement Program, which includes the Consolidated Plan for Participating Local Districts (PLDs), along with several plans of PLDs who withdrew from the System, as the assets of all these programs are co-mingled for investment purposes. In performing the annual valuation, the actuarial value of assets that is developed reflects all defined benefit plan assets and subsequently it is allocated across all of the defined benefit plans included in the programs administered by MainePERS.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of assets at June 30, 2008 and June 30, 2009;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- Allocation of Actuarial Value to subplans;
- Assessment of investment performance; and
- Projection of expected **cash flows** for the next ten years.

Disclosure

The market value of assets represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. Because these fluctuations would result in volatility in the resulting contributions if the market value were used, unadjusted, in the valuation process, an actuarial value is developed.

The actuarial value is based on the market value that has been smoothed. This actuarial value becomes the actuary's best estimate of long-term asset values and is used for evaluating the Program's ongoing ability to meet its obligations.

Current actuarial methods employed in this Program set the actuarial value equal to the expected value plus one-third of the difference between the actual market value of assets and the expected value of assets. The expected value of assets takes the prior year's actuarial value of assets and adjusts it for contributions, benefit payments, and expected interest earnings at the assumed 7.75% rate.



SECTION II ASSETS

Changes in Market Value of Total Defined Benefit Plan Assets (All Programs)				
Value of Assets – June 30, 2008			\$	10,489,420,509
Additions Contributions: Employer Contributions Employee Contributions Transfer Total Contributions	\$ 331,697,434 154,552,101 (61,280)	\$ 486,188,255		
Investment Income: Net Appreciation (Depreciation) in Fair Value of Investments Interest on Bank Balances Total Investment Income	\$(1,952,074,882) 673,353	\$ (1,951,401,529)		
Investment Activity Expenses: Management Fees Investment Related Expense Banking Fees Total Investment Activity Expenses	\$ (22,346,378) (752,292) (31,336)	\$ (23,130,006)		
Net Income from Investing Activities		\$ (1,974,531,536)		
Total Additions			\$	(1,488,343,281)
Deductions Retirement Benefits Disability Benefits Survivor Benefits Refunds and Other Expenses	\$ (564,168,714) (45,703,611) (12,559,888) (55,332,214)			
Total Deductions			\$	677,764,427
Total Net Increase (Decrease)			\$	(2,166,107,708)
Value of Assets – June 30, 2009			\$	8,323,312,801



SECTION II ASSETS

	Development of Actuarial Value of Assets (All Programs) as of June 30, 2009					
1.	Actuarial Value of Assets at June 30, 2008	\$	10,892,728,296			
2.	Amount in (1) with Interest to June 30, 2009		11,736,914,739			
3.	Employer and Member Contributions for the Plan Year Ended June 30, 2009		486,188,255			
4.	Interest on Contributions Assuming Received Uniformly Throughout the Year to June 30, 2009		18,488,268			
5.	Disbursements from Trust Except Investment Expenses, July 1, 2006 through June 30, 2009		(677,764,427)			
6.	Interest on Disbursements Assuming Payments Made Uniformly throughout the Year to June 30, 2009		(25,195,454)			
7.	Expected Value of Assets at June 30, 2009 $= (2) + (3) + (4) + (5) + (6)$	\$	11,538,631,381			
8.	Actual Market Value of Assets at June 30, 2009		8,323,312,801			
9.	Excess of (8) Over (7)	\$	(3,215,318,580)			
10.	Actuarial Value of Assets at June 30, 2009 = $(7) + 33\frac{1}{3}\%$ of (9)	\$	10,466,858,521			



SECTION II ASSETS

Actuarial Value of Assets

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, volatile contribution rates which could develop from short-term fluctuations in the Market Value of Assets. For this Program, the Actuarial Value has been calculated by adding one-third of the difference between actual Market Value and Expected Value, to the Expected Value. The previous table illustrates the calculation of Actuarial Value of Assets for the June 30, 2009 valuation.

Allocation of Actuarial Value of Assets

The assets for all of the defined benefit plans in the programs administered by MainePERS are commingled for investment purposes. Other assets are in effect commingled in that their value is allocated among all of the programs. The actuarial smoothing methodology is applied on the market value of total assets. This produces an asset ratio which is then applied to the market value of assets attributable to each of the programs. The asset value derived in this valuation is 1.25754 (\$10,466,858,521 ÷ \$8,323,312,801). The allocation of actuarial value of assets to each of the System's retirement programs is shown in the following chart.

Allocation of Actuarial Value of Assets as of June 30, 2009							
	Market Value Actuarial Value						
Teachers	\$ 4,286,109,335	\$ 5,389,933,203					
State (Regular & Special)	2,936,018,033	2,334,740,307					
Judges	38,550,289	48,478,344					
Legislators	6,932,518	8,717,885					
Participating Local Districts (Consolidated & Non-Consolidated)	1,656,980,351	2,083,711,056					
Total Fund	\$ 8,323,312,800	\$ 10,466,858,521					

Investment Performance

The Market Value of Assets returned negative 19.00% during FY 2009. This is significantly lower than the assumed return of 7.75%. The returns in FY 2008 and FY 2007 were negative 3.10% and positive 16.23% respectively.

On an actuarial value of assets basis, the return for FY 2009 was a negative 2.17%. This return is higher than the return on a market value basis, but does not meet the 7.75% assumption and therefore gives rise to an investment loss this year.



SECTION II ASSETS

Projection of State and Teacher Program Benefit Payments and Contributions					
FY Ending June 30	Expected Benefit Payments	Expected State Contributions	Expected Member Contributions	Total Expected Contribution	
2010	\$ 579,759,000	\$ 363,868,000	\$ 128,748,000	\$ 492,616,000	
2011	627,528,000	381,152,000	134,864,000	516,016,000	
2012	678,147,000	399,257,000	141,270,000	540,527,000	
2013	730,478,000	418,221,000	147,980,000	566,201,000	
2014	784,572,000	438,087,000	155,009,000	593,096,000	
2015	839,973,000	458,896,000	162,372,000	621,268,000	
2016	895,827,000	480,693,000	170,085,000	650,778,000	
2017	950,628,000	503,526,000	178,164,000	681,690,000	
2018	1,004,994,000	527,444,000	186,627,000	714,071,000	
2019	1,057,442,000	552,497,000	195,491,000	747,988,000	

We provide this projection of cash flows in and out of the Program for informational purposes. The Board may share these projections with its investment advisor for consideration of the growing gap between cash coming in from State and member contributions and cash being paid out to provide benefits. The chart shows this gap is expected to widen over time.

The expected benefit payments were developed on the basis of those currently included in this valuation and on the assumption that the actuarial assumptions disclosed in Appendix B will be exactly met. Actual benefit payments will vary if members retire sooner or later than assumed and if salary increases and projected future post-retirement COLAs differ from those assumed. The projections exclude any assumption about new hires, whose experience will eventually lead to increased benefit payments.

However, we do not feel this exclusion will materially impact the projections for the time period shown.

Expected contributions are based on the current covered payroll and the composite State contribution rate developed in this valuation of 21.79% of payroll. We have assumed that payroll will increase by 4.75% per year in the projection period and that the rate will remain constant.

The projection of member contributions is similarly based on a 4.75% per year increase in covered payroll multiplied by the average aggregate member contribution rate of 7.70%.



SECTION III LIABILITIES

In this section, we present detailed information on liabilities including:

- **Disclosure** of liabilities at June 30, 2008 and June 30, 2009;
- Statement of **changes** in these liabilities during the year; and
- An **allocation** of liabilities to the Teachers, State Regular and State Special plans.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used.

- Present Value of Future Benefits: Used for analyzing the overall financial obligations, this represents the amount of money needed today to fully pay off all future benefits, assuming participants continue to earn salary increases and accrue benefits under the current program and plan provisions.
- Actuarial Liability: Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Future Benefits above and subtracting the value of accruals that are assigned to future years. This offset is equal to the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. For MainePERS, this method is referred to as the Entry Age Normal funding method.

• **Present Value of Accrued Benefits:** Used for communicating the liabilities for benefits accrued as of the valuation date. These liabilities are also required for accounting purposes (FAS 35) and used to assess whether the Program can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior years' valuations. With respect to the Actuarial Liability and the Present Value of Accrued Benefits, a subtraction of the appropriate value of assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

The Present Value of Future Benefits is compared to the current market value of assets, the expected future value of member contributions and the expected future value of State contributions made on behalf of Current members assuming the valuation rate remains constant. The difference between the Present Value of Future Benefits (PVB) and these anticipated resources indicates a shortfall representing additional funding required on the payroll of new hires to pay for benefits of existing members. This surplus or a shortfall indicates the size of the State and Teacher Program's allocation of the stored gains or losses that remain outside of the valuation process. These gains or losses may enter the rate-making processes depending on the future investment performance.



SECTION III LIABILITIES

Disclosure of Liabilities				
	June 30, 2008	June 30, 2009		
Present Value of Future Benefits (PVB)				
Active Participant Benefits	\$ 7,295,192,494	\$ 7,583,346,432		
Retiree Benefits	5,764,122,503	6,203,580,797		
Terminated Vested and Inactive Members	444,883,113	418,562,812		
Total PVB	\$ 13,504,198,110	\$ 14,205,490,041		
Market Value of Assets (MVA)	8,311,970,624	6,620,849,642		
Future Employee Contributions	1,070,826,825	1,098,844,776		
Future State Contributions for Current Members at the				
Current Rate (17.79% PYE 09; 21.79% PYE 10)	3,803,381,388	4,782,222,269		
Projected (Surplus)/Shortfall	318,019,273	1,703,573,354		
Total Resources	\$ 13,504,198,110	\$ 14,205,490,041		
Actuarial Liability				
Present Value of Future Benefits (PVB)	\$ 13,504,198,110	\$ 14,205,490,041		
Present Value of Future Normal Costs (PVFNC)	, ,	, , ,		
Employer Portion	765,338,774	785,425,933		
Employee Portion	1,070,826,825	1,098,844,776		
Actuarial Liability (AL = PVB – PVFNC)	\$ 11,668,032,511	\$ 12,321,219,332		
Actuarial Value of Assets (AVA)	8,631,557,629	8,325,951,236		
Net (Surplus)/Unfunded (AL – AVA)	\$ 3,036,474,882	\$ 3,995,268,096		
Present Value of Accrued Benefits				
Present Value of Future Benefits (PVB)	\$ 13,504,198,110	\$ 14,205,490,041		
Present Value of Future Benefit Accruals (PVFBA)	3,337,696,066	3,428,918,325		
Accrued Liability (PVAB = PVB – PVFBA)	\$ 10,166,502,044	\$ 10,776,571,716		
Market Value of Assets (MVA)	8,311,970,624	6,620,849,642		
Net (Surplus)/Unfunded (PVAB – MVA)	\$ 1,854,531,420	\$ 4,155,722,074		



SECTION III LIABILITIES

Changes in Liabilities

Each of the liabilities disclosed in the prior table is expected to change at each subsequent valuation. The components of these changes, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Program and Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in assets resulting from:

- State contributions being different than expected
- Investment earnings being different than expected
- A change in the method used to measure Plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the Program. Below we present key changes in liabilities since the last valuation.

	Preser	nt Value of Future Benefits	Actu	arial Liability	sent Value of rued Benefits
Liabilities 6/30/2008	\$	13,504,198,110		11,668,032,511	10,166,502,044
Liabilities 6/30/2009		14,205,490,041		12,321,219,332	10,776,571,716
Liability Increase (Decrease)	\$	701,291,931	\$	653,186,821	\$ 610,069,672
Change Due to:					
Program/Plan Amendment	\$		\$		\$
System Change					
Actuarial (Gain)/Loss		N/C		561,893,263	N/C
Benefits Accumulated and Other Sources	\$	701,291,931	\$	561,893,269	\$ 610,069,672

N/C = Not calculated



SECTION III LIABILITIES

	Allocation of Actuarial Liability as of June 30, 2009								
]	Total Program		Teachers	j	State Regular	S	pecial Plans
a. <i>A</i> b. F	nuarial Liabilities for: Active Members Retired, Disabled and Beneficiary Members Vested Deferred and Inactive Status Members	\$ \$ \$	5,699,075,723 6,203,580,797 418,562,812		3,892,941,256 3,763,094,885 309,639,652		1,515,960,598 2,067,070,331 108,923,160	\$ \$ \$	290,173,869 373,415,581 0
	al Actuarial Liability a) + 1(b) + 1(c))	\$	12,321,219,332	\$	7,965,675,793	\$	3,691,954,089	\$	663,589,450
3. Actu	uarial Value of Assets	\$	8,325,951,236	\$	5,389,933,203	\$	2,550,177,993	\$	385,840,040
4. Unf (2 –	Funded Actuarial Liability - 3)	\$	3,995,268,096	\$	2,575,742,590	\$	1,141,776,096	\$	277,749,410



SECTION IV CONTRIBUTIONS

In the process of evaluating the financial condition of any pension program, the actuary analyzes the assets and liabilities to determine the level of contributions needed to achieve and maintain an appropriate funded status. Typically, the primary goal in setting contributions is to maintain, over time, a pattern of contributions that is both stable and predictable.

For the plans in this Program, the funding methodology employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two components to the total contribution: the **normal cost rate**, and the **unfunded actuarial liability rate** (UAL rate). The normal cost rate is determined by the following steps. First, an individual normal cost rate is determined by taking the value, as of entry age into a plan, of a representative new entrant's projected future benefits. Second, this value is then divided by the value, also at entry age, of the member's expected future salary to produce a total normal cost rate. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The UAL rate is that percentage of member payroll which, when applied to each year's payroll, is sufficient to amortize the unfunded actuarial liability (UAL) over 19 years from June 30, 2009.

The table below presents and compares the composite State contribution rate for all plans in the Program for this valuation and the prior one.

Composite State Rate June 30, 2008 June 30, 2009						
Normal Cost Rate	5.52%	5.52%				
UAL Rate	<u>12.27%</u>	<u>16.27%</u>				
Total State Rate	17.79%	21.79%				

The charts on the pages that follow show the contribution rate component for each plan within the State and Teacher Program and the development of the UAL amortization rate for each plan.



SECTION IV CONTRIBUTIONS

	Table IV-1 State Employer Contribution Rates								
Valuation Date June 30, 2009	Total State	Teacher	State Regular	State Police Marine Resources Inland Fish & Wildlife (Closed)	Prison Employees (Closed)	Forest Rangers (Closed)	25 & Out Plan	1998 Special Plan	
New Entrant Normal Cost Contributions as a Percent of Payroll	5.52%	5.25%	5.75%	17.84%	9.04%	7.34%	8.25 %	6.50%	
Unfunded Actuarial Liability Contribution as a Percent of Payroll	<u>16.27</u>	<u>16.44</u>	<u>15.32</u>	<u>47.51</u>	<u>24.08</u>	19.55	<u>21.97</u>	<u>17.31</u>	
Total Contributions as a Percent of Payroll	21.79%	21.69%	21.07%	65.35%	33.12%	26.89%	30.22%	23.81%	



SECTION IV CONTRIBUTIONS

	Table IV-2 Derivation of Unfunded Actuarial Liability Rates							
	Valuation Date June 30, 2009	Teachers	State Regular	State Police Marine Resources Inland Fish & Wildlife (Closed)	Prison Employees (Closed)	Forest Rangers (Closed)	25 & Out Plan	1998 Special Plan
1.	Present Value of Future Benefits	\$ 9,136,270,860	\$ 4,276,079,098	\$ 273,150,743	\$ 59,369,448	\$ 28,634,517	\$ 128,952,364	\$ 303,033,011
2.	Normal Cost Rate	5.25%	5.75%	17.84%	9.04%	7.34%	8.25%	6.50%
3.	Present Value of Future Payroll	\$ 9,074,380,370	\$ 4,359,141,859	\$ 4,103,007	\$ 1,944,660	\$ 2,064,207	\$ 248,582,033	\$ 566,200,038
4.	Present Value of Future Normal Cost (2) x (3)	\$ 476,404,969	\$ 250,650,657	\$ 731,977	\$ 175,797	\$ 151,513	\$ 20,508,018	\$ 36,803,002
5.	Present Value of Future Contributions	\$ 694,190,098	\$ 333,474,352	\$ 354,910	\$ 168,213	\$ 178,554	\$ 21,502,346	\$ 48,976,303
6.	Actuarial Liability $(1) - (4) - (5)$	\$ 7,965,675,793	\$ 3,691,954,089	\$ 272,063,856	\$ 59,025,438	\$ 28,304,450	\$ 86,942,000	\$ 217,253,706
7.	Actuarial Value of Assets	\$ 5,389,933,203	\$ 2,550,177,993	\$ 256,970,681	\$ 56,370,521	\$ 25,738,242	\$ (3,955,857)	\$ 50,716,453
8.	Unfunded Actuarial Liability (6) – (7)	\$ 2,575,742,590	\$ 1,141,776,096	\$ 15,093,175	\$ 2,654,917	\$ 2,566,208	\$ 90,897,857	\$ 166,537,253
9.	Estimated Payroll	\$ 1,065,781,637	\$ 506,742,352	\$ 2,160,358	\$ 749,933	\$ 892,762	\$ 28,134,530	\$ 65,424,138
10.	Amortization Factor	14.7040	14.7040	14.7040	14.7040	14.7040	14.7040	14.7040
11.	Unfunded Actuarial Liability Rate (8) / (9) / (10)	16.44%	15.32%	47.51%	24.08%	19.55%	21.97%	17.31%



SECTION V ACCOUNTING STATEMENT INFORMATION

Statement No. 35 of the Financial Accounting Standards Board (FASB) requires the disclosure of certain information regarding the funded status of a retirement program. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB-35 disclosures provide a quasi "snap shot" view of how assets compare to liabilities if contributions were to stop and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if all plans in the Program were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB-35) and the actuarial accrued liability (GASB-25) are determined assuming that the plans in the Program are ongoing and participants will continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75% per annum.

FASB Statement No. 35 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets

for funding purposes. The relevant amounts as of June 30, 2008 and June 30, 2009 are exhibited in Table V-1. Table V-2 reconciles the FASB-35 liabilities determined as of the prior valuation, June 30, 2008 to the liabilities as of June 30, 2009.

Tables V-3 through V-5 are exhibits required for the System's Comprehensive Annual Financial Report. The GFOA recommends showing 6-10 years of experience in each of these exhibits. This report will continue to add years of experience to the charts and eventually build up to the recommended disclosure. Table V-3 shows the Notes to Required Supplementary Information. Table V-4 is a history of gains and losses in Accrued Liability, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.



SECTION V ACCOUNTING STATEMENT INFORMATION

	Table V-1 Accounting Statement Information							
	June 30, 2008 June 30, 2009							
A. FA	A. FASB No. 35 Basis							
1.	Present Value of Benefits Accrued to Date a. Members Currently Receiving Payments b. Vested Terminated c. Active Members d. Total PVAB	\$ 5,764,122,503 444,883,113 3,957,496,428 \$ 10,166,502,044	\$ 6,203,580,797 418,562,812 <u>4,154,428,107</u> \$ 10,776,571,716					
2.	Assets at Market Value	8,311,970,624	<u>6,620,849,642</u>					
3.	Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$ 1,854,531,420	\$ 4,155,722,074					
4.	Ratio of Assets to Value of Benefits (2) / (1)(d)	81.76%	61.44%					
B. G.	ASB No. 25 Basis							
1.	Actuarial Liabilities a. Members Currently Receiving Payments b. Vested Deferred and Inactive Status Members c. Active Members d. Total	\$ 5,764,122,503 444,883,113 5,459,026,895 \$ 11,668,032,511	\$ 6,203,580,797 418,562,812 <u>5,699,075,723</u> \$ 12,321,219,332					
2.	Actuarial Value of Assets	8,631,557,629	<u>8,325,951,236</u>					
3.	Unfunded Actuarial Liability	\$ 3,036,474,882	\$ 3,995,268,096					
4.	Ratio of Actuarial Value of Assets to Actuarial Liability (2) / (1)(d)	73.98%	67.57%					



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-2 Statement of Changes in Total Actuarial Present Value of All Accrued Benefits	
	Accumulated Benefit Obligation (FASB 35)
Actuarial Present Value of Accrued Benefits as of June 30, 2008	\$ 10,166,502,044
Increase (Decrease) During Years Attributable to: Passage of Time Benefits Paid – FY 2009 Program/Plan Amendment Benefits Accrued, Other Gains/Losses Net Increase (Decrease)	743,798,575 (569,101,082) 0 435,372,179 \$ 610,069,672
Actuarial Present Value of Accrued Benefits as of June 30, 2009	\$ 10,776,571,716



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-3 NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date

June 30, 2009

Actuarial cost method Entry age

Amortization method Level percent closed

Remaining amortization period 19 years

Asset valuation method 3-Year smoothed market

Actuarial assumptions:

Investment rate of return*

Projected salary increases*

*Includes inflation at

Cost-of-living adjustments

7.75%

4.75%

4.50%

3.75%

The actuarial assumptions used have been recommended by the actuary and adopted by the System's Board of Trustees based on the most recent review of the experience of the plans in the Program, completed in 2006.

The rate of employer contributions to the plans in the Program is composed of the normal cost and an amortization of the unfunded actuarial accrued liability. The normal cost is a level percent of payroll cost which, along with the member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-4 ANALYSIS OF FINANCIAL EXPERIENCE Gain and Loss in Accrued Liability During Years Ended June 30 Resulting from Differences Between Assumed Experience and Actual Experience Gain (or Loss) for Year ended June 30, 2005 June 30, 2006 June 30, 2007 June 30, 2008 June 30, 2009 **Type of Activity** 16,350,568 (2,036,992)\$ 209,910,525 \$ (160,831,089) \$ (843,411,410) Investment Income 3,388,524 48,354,919 \$ (39,346,019) \$ 68,570,730 \$ (91,293,558) Combined Liability Experience \$ 19,739,092 Gain (or Loss) During Year from Financial Experience \$ 46,317,927 \$ 170,564,505 \$ (92,260,359) \$ (934,704,969) 0 5,292,234 0 Non-Recurring Items 19,739,092 \$ 51,610,161 \$ 170,564,505 \$ (92,260,359) \$ (934,704,969) Composite Gain (or Loss) During Year



SECTION V ACCOUNTING STATEMENT INFORMATION

Table V-5 SOLVENCY TEST Aggregate Actuarial Accrued Liabilities For								
(1) (2) (3) Portion of Actuarial Accrued Valuation Active Retirees Active Members Liabilities Covered Date Member Vested Terms, (Employer Reported by Reported Assets June 30, Contributions Beneficiaries Financed Portion) Assets (1) (2) (3)								
2009 2008 2007 2006 2005 2004	\$ 2,002,784,768 1,898,148,565 1,789,362,929 1,645,241,719 1,569,409,748 1,464,936,256	\$ 6,622,143,609 6,209,005,616 5,850,882,771 5,367,785,679 4,832,994,427 4,387,963,456	\$ 3,696,290,955 3,560,878,330 3,517,524,438 3,534,271,796 3,596,845,863 3,589,489,687	\$ 8,325,951,236 8,631,557,629 8,245,520,019 7,504,219,546 6,964,597,457 6,452,570,243	100% 100% 100% 100% 100% 100%	95% 100% 100% 100% 100% 100%	0% 15% 17% 14% 16% 17%	



APPENDIX A MEMBERSHIP INFORMATION

Active Member Data as of June 30, 2009	
<u>Teachers</u>	
Count	26,450
Average Current Age	46.6
Average Service	15.3
Average Valuation Pay	\$ 40,294
State Employee Regular Plan	
Count	12,159
Average Current Age	48.0
Average Service	13.6
Average Valuation Pay	\$ 41,676
Forest Rangers Special Plan (Closed Plan)	
Count	16
Average Current Age	53.0
Average Service	29.9
Average Valuation Pay	\$ 55,798
Inland Fisheries & Wildlife Officers Special Plan (Closed Plan))
Count	10
Average Current Age	56.1
Average Service	31.8
Average Valuation Pay	\$ 58,487
Prison Employees Special Plan (Closed Plan)	
Count	14
Average Current Age	55.4
Average Service	29.7
Average Valuation Pay	\$ 53,567



APPENDIX A MEMBERSHIP INFORMATION

Active Member Data as of June 30, 2009	
State Police Special Plan (Closed Plan)	
Count	17
Average Current Age	53.3
Average Service	27.9
Average Valuation Pay	\$ 81,905
Marine Resource Officers Special Plan (Closed Plan)	
Count	3
Average Current Age	53.8
Average Service	32.0
Average Valuation Pay	\$ 61,035
State Employee Special 25 & Out Plan	
Count	439
Average Current Age	39.6
Average Service	12.9
Average Valuation Pay	\$ 64,088
State Employee 1998 Special Plan	
Count	1,378
Average Current Age	44.5
Average Service	11.6
Average Valuation Pay	\$ 47,478
State Employee Totals (Excludes Teachers)	
Count	14,036
Average Current Age	47.4
Average Service	13.5
Average Valuation Pay	\$ 43,040



APPENDIX A MEMBERSHIP INFORMATION

Non-Active Member Data as of June 30, 2009 Teachers							
	Count	Total Annual Benefit	Average Annual Benefit				
Retired	11,258	\$ 263,091,924	\$ 23,369				
Retired – Concurrent Beneficiaries	1,375	\$ 7,649,519	\$ 5,563				
Disabilities / 1122	1	\$ 23,985	\$ 23,985				
Disabilities / 3 and 3A	690	\$ 18,690,456	\$ 27,088				
Beneficiaries	1,165	\$ 17,600,970	\$ 15,108				
Pre-Retirement Death Benefits	287	\$ 1,712,853	\$ 5,968				
Terminated Vested	4,819	\$ 32,550,281	\$ 6,755				

Non-Active Member Data as of June 30, 2009 State Regular							
	Count	Total Annual Benefit	Average Annual Benefit				
Retired	7,303	\$ 137,607,400	\$ 18,843				
Retired – Concurrent Beneficiaries	1,095	\$ 5,345,047	\$ 4,881				
Disabilities / 1122	8	\$ 113,661	\$ 14,208				
Disabilities / 3 and 3A	912	\$ 19,603,572	\$ 21,495				
Beneficiaries	1,804	\$ 22,006,572	\$ 12,199				
Pre-Retirement Death Benefits	402	\$ 2,402,747	\$ 5,977				
Terminated Vested	1,780	\$ 14,311,904	\$ 8,040				



APPENDIX A MEMBERSHIP INFORMATION

Non-Active Member Data as of June 30, 2009 Special Plans							
	Count	An	Total nual Benefit	Average Annual Benefit			
Retired	795	\$	23,773,820	\$ 29,904			
Retired – Concurrent Beneficiaries	157	\$	860,742	\$ 5,482			
Disabilities / 1122	3	\$	54,773	\$ 18,258			
Disabilities / 3 and 3A	69	\$	1,739,179	\$ 25,205			
Beneficiaries	196	\$	2,994,260	\$ 15,277			
Pre-Retirement Death Benefits	7	\$	60,846	\$ 8,692			
Terminated Vested	0	\$	0	\$ 0			



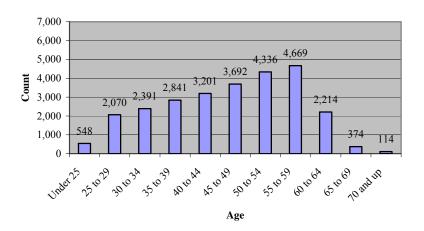
APPENDIX A MEMBERSHIP INFORMATION

Distribution of Active Members As of June 30, 2009

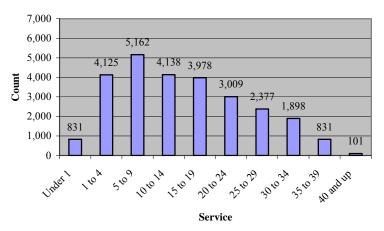
Teachers

					Years of	Service					
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals
Under 25	140	372	36	0	0	0	0	0	0	0	548
25 to 29	173	959	899	39	0	0	0	0	0	0	2,070
30 to 34	109	532	969	750	31	0	0	0	0	0	2,391
35 to 39	122	535	579	849	754	2	0	0	0	0	2,841
40 to 44	105	548	666	531	974	371	6	0	0	0	3,201
45 to 49	52	460	705	568	532	823	545	7	0	0	3,692
50 to 54	58	310	592	642	686	587	901	553	7	0	4,336
55 to 59	45	214	447	480	639	720	585	1,073	462	4	4,669
60 to 64	20	142	203	214	308	436	285	222	330	54	2,214
65 to 69	6	40	36	47	43	60	47	34	28	33	374
70 and up	1	13	30	18	11	10	8	9	4	10	114
Total	831	4,125	5,162	4,138	3,978	3,009	2,377	1,898	831	101	26,450

Age Distribution



Service Distribution





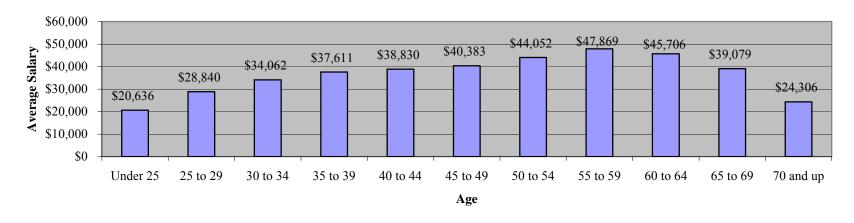
APPENDIX A MEMBERSHIP INFORMATION

Distribution of Active Members As of June 30, 2009

Teachers

					Average	e Salary					
					Years of	Service					
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Average
Under 25	\$ 16,957	\$ 21,498	\$ 26,037								\$ 20,636
25 to 29	20,532	27,340	31,803	34,272							28,840
30 to 34	21,683	28,858	35,436	37,503	40,731						34,062
35 to 39	21,506	27,049	35,707	41,433	44,874	36,221					37,611
40 to 44	20,043	26,244	33,105	40,810	46,894	48,995	39,711				38,830
45 to 49	22,102	23,697	31,380	36,566	45,250	50,183	52,037	59,770			40,383
50 to 54	24,883	26,882	30,851	36,725	43,165	50,017	54,083	56,617	54,487		44,052
55 to 59	23,678	28,185	34,383	38,478	44,034	48,353	53,708	57,444	56,996	55,937	47,869
60 to 64	15,160	25,244	34,052	37,800	43,982	47,060	50,799	53,594	57,207	55,283	45,706
65 to 69	9,793	19,246	22,647	30,635	36,904	40,014	50,257	52,149	55,268	56,412	39,079
70 and up	5,850	9,049	13,291	12,580	29,957	41,005	39,761	25,525	48,924	53,915	24,306
Average	\$ 20,510	\$ 26,220	\$ 33,024	\$ 38,396	\$ 44,760	\$ 48,871	\$ 52,968	\$ 56,515	\$ 56,962	\$ 55,542	\$ 40,294

Average Salary Distribution





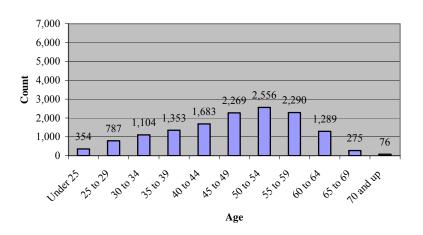
APPENDIX A MEMBERSHIP INFORMATION

Distribution of Active Members As of June 30, 2009

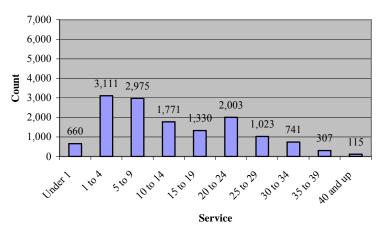
State

					Years of	Service					
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Totals
Under 25	118	221	15	0	0	0	0	0	0	0	354
25 to 29	80	486	214	7	0	0	0	0	0	0	787
30 to 34	79	441	420	160	4	0	0	0	0	0	1,104
35 to 39	86	363	429	315	130	30	0	0	0	0	1,353
40 to 44	72	377	387	282	249	304	12	0	0	0	1,683
45 to 49	77	393	443	267	274	513	253	49	0	0	2,269
50 to 54	70	379	433	303	276	470	308	294	23	0	2,556
55 to 59	58	267	357	249	217	401	269	276	177	19	2,290
60 to 64	20	155	213	146	147	227	137	95	85	64	1,289
65 to 69		21	49	37	28	48	37	17	16	22	275
70 and up		8	15	5	5	10	7	10	6	10	76
Total	660	3,111	2,975	1,771	1,330	2,003	1,023	741	307	115	14,036

Age Distribution



Service Distribution





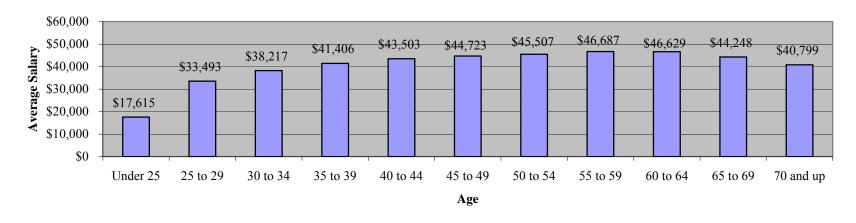
APPENDIX A MEMBERSHIP INFORMATION

Distribution of Active Members As of June 30, 2009

State

					Average	Salary					
					Years of	Service					
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	Average
Under 25	\$ 7,809	\$ 22,306	\$ 25,657								\$ 17,615
25 to 29	17,986	33,686	38,662	39,222							33,493
30 to 34	15,894	35,976	41,841	45,584	50,964						38,217
35 to 39	15,058	36,188	41,518	50,181	49,847	49,759					41,406
40 to 44	17,530	36,306	42,632	47,025	52,700	48,920	42,739				43,503
45 to 49	16,075	35,555	43,027	48,314	50,916	50,089	48,774	47,293			44,723
50 to 54	19,332	37,392	41,491	46,588	48,571	49,977	52,115	49,729	49,719		45,507
55 to 59	20,197	37,340	41,994	46,295	47,572	48,647	54,909	54,390	48,894	51,848	46,687
60 to 64	13,531	36,421	43,457	46,720	47,246	48,169	52,269	53,735	56,517	49,418	46,629
65 to 69		37,172	35,287	39,821	41,050	47,136	48,201	55,550	53,773	53,864	44,248
70 and up		21,048	37,881	36,468	43,346	32,923	44,883	53,619	51,878	47,416	40,799
Average	\$ 15,464	\$ 34,940	\$ 41,719	\$ 47,237	\$ 49,472	\$ 49,218	\$ 51,743	\$ 52,004	\$ 51,379	\$ 50,496	\$ 43,040

Average Salary Distribution





APPENDIX A MEMBERSHIP INFORMATION

Distribution of Retirees, Disabled Members, Beneficiaries, and Survivors As of June 30, 2009

Teachers

Age	Count	Annual Benefit		Annual Benefit Distribution
Under 45 45 to 49 50 to 54 55 to 59 60 to 64 65 to 69 70 to 74 75 to 79 80 to 84 85 to 89 90 & up Total	156 64 179 1,172 3,277 3,388 2,289 1,873 1,117 713 548 14,776	\$ 1,076,861 981,387 3,626,953 27,737,384 81,555,297 75,404,525 46,479,361 35,262,404 17,810,644 10,613,935 8,220,954 \$ 308,769,707	Annual Benefit Millions 88 87 88 88 88 80 80 80 80 80 80 80 80 80 80	\$1 \$1 \$4 \$46 \$35 \$18 \$11 \$8

State

Age	Count	Annual Benefit	Annual Benefit Distribution
Under 45 45 to 49 50 to 54 55 to 59 60 to 64 65 to 69 70 to 74 75 to 79 80 to 84 85 to 89 90 & up Total	202 180 567 1,081 2,053 2,173 1,948 1,805 1,457 878 424 12,768	1,774,318 2,605,584 10,237,314 21,880,089 42,855,801 39,700,923 32,693,155 27,751,164 21,394,759 11,338,251 4,717,908 216,949,265	## \$50 \$40 \$30 \$22 \$3 \$21 \$21 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$2 \$3 \$30 \$28 \$21 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$55 \$50 \$10 \$10 \$11 \$11 \$55 \$50 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$1



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Rate of Investment Return:

State Employees: 7.75%

Teachers: 7.75%

2. Cost-of-Living Increases in Benefits:

State Employees: 3.75%

Teachers: 3.75%

3. Rates of Salary Increase (% at Selected Years of Service):

Service	State Employees and Teachers
0	10.00%
5	7.50
10	6.07
15	5.28
20	4.90
25 and over	4.75

The above rates include a 4.75% across-the-board increase at each year of service.

4. Rates of Termination (% at Selected Service):

Service	State Employees	Teachers
0	30.00%	37.00%
5	7.50	12.50
10	4.40	6.00
15	3.50	4.50
20	2.00	3.00
25	2.00	2.00

Members with ten or more years of service and whose age plus service totals 60 or more are assumed to elect deferred vested benefits; other terminations are assumed to elect refunds.



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

5. Rate of Mortality for Active Healthy Lives and Retired Healthy Lives at Selected Ages (number of deaths per 10,000 members)*:

	State E	mployees	Teachers		
Age	Male	Female	Male	Female	
20	5	3	5	3	
25	7	3	6	3	
30	9	4	7	3	
35	9	5	8	4	
40	12	8	10	6	
45	17	10	14	9	
50	28	15	24	13	
55	48	25	40	21	
60	86	48	73	41	
65	156	93	133	79	
70	255	148	217	125	

* For State Regular and Teachers 5% of deaths assumed to arise out of and in the course of employment; for State Special 20% of deaths are assumed to arise out of and in the course of employment.

6. Rates of Mortality for Future Disabled Lives and Retired Disabled Lives at Selected Ages (number of deaths per 10,000 members):

	State E	mployees	Teachers		
Age	Male	Female	Male	Female	
25	92	72	92	72	
30	112	89	112	89	
35	134	109	134	109	
40	160	126	160	126	
45	193	144	193	144	
50	236	165	236	165	
55	295	191	295	191	
60	362	226	362	226	
65	446	272	446	272	
70	576	331	576	331	



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

7. Rates of Retirement at Selected Ages (number retiring per 1,000 members):

	State En	nployees	Teachers		
Age	Tier 1	Tier 2	Tier 1	Tier 2	
45	28	28	18	18	
50	42	42	39	39	
55	103	103	106	106	
59	200	148	156	100	
60	228	148	225	100	
61	133	133	139	100	
62	268	250	277	250	
63	202	202	224	224	
64	221	221	223	223	
65	478	478	485	485	
70	589	589	570	570	

* Members of Special Groups are assumed to retire at a rate of 50% per year, once they reach eligibility for unreduced benefits at every age.

In the case of State Regular and Teacher employees, Tier 1 refers to those who had accrued at least 10 years of service by July 1, 1993. Tier 2 are those who had not or were hired after that date.

8. Rates of Disability at Selected Ages (members becoming disabled per 10,000 members)**:

Age	State Employees	Teachers
25	6.8	4.6
30	7.6	5.0
35	10.2	5.5
40	19.0	6.8
45	27.9	15.5
50	42.7	24.3
55	81.0	33.0
60	119.3	41.8

^{** 10%} assumed to receive Workers Compensation benefits offsetting disability benefit; also, rates for State Special groups are higher by 7 per 10,000 at all ages.

9. Family Composition Assumptions:

80% of active members are married and have two children born when the member is 24 and 28; children are dependent until age 18; female spouse is three years younger than male spouse; member has no dependent parents; unmarried members have beneficiaries entitled to benefits worth 80% as much as those of married members' beneficiaries.



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

10. Vacation/Sick Leave Credits:

For members who had ten years of service on July 1, 1993, credits for unused vacation and sick leave may be used to increase final average compensation and/or creditable service. In order to reflect this, projected benefits are increased by 1.0% for state employees and 1.3% for teachers.

11. Changes Since Last Valuation

None.



APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method:

The Entry Age Normal method is used to determine costs. Under this funding method, a total contribution rate is determined which consists of two elements: the normal cost rate and the unfunded actuarial liability (UAL) rate.

For Teachers and State Employees, including each of the State Special Plans, a normal cost rate is determined for a typical new entrant. This rate is determined by taking the value, as of age at entry into a plan in the Program, of the member's projected future benefits, reducing it by the value of future member contributions, and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

In addition to contributions required to meet a plan's normal cost, contributions are required to fund the plan's unfunded actuarial liability. The actuarial liability is defined as the present value of future benefits less the present value of future normal costs and future member contributions. The unfunded actuarial liability is the total of the actuarial liability for all members less the actuarial value of assets. The actuarial liability includes projections of future member pay increases and future service credits and should not be confused with the Accrued Benefit Liability.

The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases 4.75% per year. The UAL measured as of June 30, 2009 is amortized over a 19 year period.

2. Asset Valuation Method:

For purposes of determining the State contribution to the plans in the Program, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

In determining the actuarial value of assets, we calculate an expected actuarial value based on cash flow for the year and imputed returns at the actuarial assumption. This expected value is compared to the market value and one-third of the difference is added to the preliminary actuarial value to arrive at the final actuarial value.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

State Employees and Teachers

1. Membership:

Membership is a condition of employment for state employees and teachers, and optional for elected and appointed officials.

Membership ceases on the earlier of withdrawal of contributions, retirement, or death.

2. Member Contributions:

Except as otherwise described below, members are required to contribute 7.65% of earnable compensation.

<u>Contribution Requirements for Special State Employee</u> Groups

State police, inland fisheries and wildlife officers, and marine resources officers employed before 9/1/84 - 8.65% of earnable compensation for 20 years; 7.65% thereafter.

Forest rangers and state prison employees employed before 9/1/84 - 8.65% of earnable compensation until eligible for retirement; 7.65% thereafter.

1998 Special Plan employees which include state prison employees, airplane pilots, forest rangers, defense, veterans and emergency management firefighters employed at Bangor International Airport, corrections employees, Baxter State Park Authority rangers, fire marshals, investigators and inspectors, oil and hazardous materials emergency response workers and capitol security officers —

8.65% of earnable compensation for 25 years; 7.65% thereafter.

State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82 – 8.65% of earnable compensation for 25 years; 7.65% thereafter.

Inland fisheries and wildlife officers and marine resources officers employed on or after 9/1/84 - 8.65% of earnable compensation for 25 years; 7.65% thereafter.

3. Average Final Compensation:

For purposes of determining benefits payable, average final compensation is the average annual rate of earnable compensation for the three years of creditable service (not necessarily consecutive) which produce the highest such average.

For compensation paid on or after July 1, 1993, increases in earnable compensation of greater than 5% per year or 10% over the highest three years are not included in calculating average final compensation unless the employer pays the cost of including such compensation. Earnable compensation does not include sick and vacation pay for those members who had less than ten years of service at July 1, 1993. For members for whom sick and vacation pay is includible in earnable compensation, these payments are included in applying the caps described above.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

4. Creditable Service:

Creditable service includes service while a member, certain service prior to the establishment of the Program, purchased military service credit, other purchased service credit, and service while receiving disability benefits under the Program.

5. Service Retirement Benefits:

- A. Regular Plan (State Employees and Teachers)
 - i. Provisions for Members With at Least Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 60

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by approximately 21/4% for each year retirement age is less than age 60.

Form of Payment: Life annuity.

ii. Provisions for Members With Less Than Ten Years of Creditable Service on July 1, 1993

Normal Retirement Age: 62

Eligibility for Members in Active Service and Inactive Members: 25 years of creditable service.

Eligibility Alternative for Members in Active Service: At least one year of creditable service immediately before retirement age and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, and not in Active Service on or After October 1, 1999: At least ten years of creditable service and at least normal retirement age.

Eligibility for Members not in Active Service at Retirement, but in Active Service on or After October 1, 1999: At least five years of creditable service and at least normal retirement age.

Benefit: 1/50 of average final compensation multiplied by years of membership service and up to 25 years of prior service, reduced by 6% for each year retirement age is less than age 62.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Form of Payment: Life annuity.

B. Special Plans (State Employees)

i. State Police Employed Before 9/16/84; Inland Fisheries and Wildlife Officers and Marine Resource Officers Employed Before 9/1/84

Eligibility: 20 years of creditable service in named positions.

Benefit: one-half of average final compensation plus 2% for each year of service in excess of 20. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: 50% joint and survivor annuity, or life annuity.

ii. Forest Rangers Employed Before 9/1/84

Eligibility: Age 50 with 25 years of creditable service as a forest ranger.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

iii. Airplane Pilots Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as an airplane pilot.

Benefit: Greater of (1) one-half of average final compensation plus 2% for each year of service earned after qualification for retirement, and (2) if retiring after age 60, the benefit under the general formula.

Form of Payment: Life annuity.

iv. Liquor Inspectors Employed Before 9/1/84

Eligibility: Age 55 and 25 years of creditable service as a liquor inspector.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement. If greater, the pro-rated portion of the benefit for service before July 1, 1976 is based on annual pay instead of average final pay.

Form of Payment: Life annuity.

v. State Prison Employees Employed Before 9/1/84

Eligibility: Age 50 and 20 years of creditable service as a prison employee.

Benefit: one-half of average final compensation plus 2% for each year of service earned after qualification for retirement.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Form of Payment: Life annuity.

vi. 1998 Special Plan

1998 Entrants: State prison employees, airline pilots, forest rangers and liquor inspectors, employed after 8/31/84; defense, veterans and emergency management firefighters employed on and after 7/1/98.

2000 Entrants: Baxter State Park Authority rangers, correctional employees and state fire marshals employed on or after 1/1/2000.

2002 Entrants: Capitol security officers and oil and hazardous materials emergency response workers.

Eligibility: Ten years of creditable service under the 1998 Special Plan in one or a combination of the covered capacities and the attainment of age 55 – OR – 25 years of creditable service in one or a combination of the covered capacities.

Benefit: For service prior to coverage in the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 60 or 62, except oil and hazardous materials emergency response workers and certain prison employee benefits are reduced for retirement before age 55.

-AND-

For service under the 1998 Special Plan, 1/50 of average final compensation multiplied by years of service reduced for retirement before age 55.

Form of Payment: Life annuity.

vii. 25 & Out Plan

1998 Entrants: State police employed on or after 9/16/84 and special agent investigators hired before 6/21/82.

2002 Entrants: Inland fisheries and wildlife officers and marine resources officers employed on and after 8/31/84.

Eligibility: 25 years of creditable service in named positions.

Benefit: 1/50 of average final compensation multiplied by years of service.

Form of Payment: Life annuity.

Members in Special Plans who fail to qualify for special plan benefits can receive regular plan benefits when and as eligible and qualified.

6. Disability Retirement Benefits Other Than No Age Benefits (See Item 7):

Eligibility: Disabled as defined in the MainePERS statutes prior to normal retirement age; employed prior to October 16, 1992 and did not elect No Age Disability Benefits.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Benefit: 66%% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity, in which case payments cease on the earlier of ten years following normal retirement age or on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with cost-of-living adjustments and service is credited. On the date when service benefits reach a level of 66% of average final compensation or ten years after the normal retirement date, if earlier, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

7. No Age Disability Retirement Benefits

Eligibility: Disabled as defined in the MainePERS statutes; employed on or after October 16, 1992 or employed prior to October 16, 1992 and elected the provisions of No Age Disability.

Benefit: 59% of average final compensation, reduced by employment earnings over the specified statutory limit, and to the extent that the benefit, in combination with Worker's

Compensation and Social Security, exceeds 80% of average final compensation.

Form of Payment: Payment begins on termination of service and ceases on cessation of disability or after five or two years, depending on disability plan, unless the member is unable to engage in any substantially gainful activity; in which case payments cease on the date the service retirement benefit equals or exceeds the disability benefit.

Conversion to Service Retirement: During the period of disability, average final compensation is increased with cost-of-living adjustments and service is credited. On the date when service benefits reach a level of 59% of average final compensation, the disability benefit converts to a service retirement benefit based on service and average final compensation at that point.

8. Pre-Retirement Ordinary Death Benefits:

Eligibility: Death while active, inactive eligible to retire, or disabled.

Benefit: Designated beneficiary, spouse, child(ren), or parents entitled to benefit calculated as if deceased member had retired under Option 2 (see item 12); however, beneficiary may elect survivor benefits payable to a surviving spouse, dependent child(ren), parent, or other designated beneficiaries in monthly amounts varying by status of beneficiary and number of eligible survivors. Otherwise accumulated contributions with interest are payable to designated beneficiary, spouse, child(ren), older parents, or estate.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

9. Pre-Retirement Accidental Death Benefits:

Eligibility: Death while active or disabled resulting from an injury received in the line of duty.

- If the member is survived by a spouse who has the care of dependent child(ren) of the member, the surviving spouse shall receive an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.
- If the member is survived by a spouse who does not have the care of the member's dependent child(ren), the surviving spouse and dependent child(ren) shall share equally an annual sum equal to the member's average final compensation. When there is no longer any dependent child, the surviving spouse shall receive 2/3 of member's average final compensation until death.
- If the member leaves no spouse, the dependent child(ren) shall be paid an annual sum equal to the member's average final compensation. Benefits will cease when the last dependent child no longer meets the definition of "dependent child".

10. Refund of Contributions:

Eligibility: Termination of service without retirement or death. Benefit: Member's accumulated contributions with interest.

11. Cost-of-Living Adjustments:

All service and disability retirement and survivor benefits are adjusted each year that there is a percentage change in the Consumer Price Index, based on the Index.

Cost-of-living adjustments are effective September 1 and are applied to all benefits which have been in payment for twelve months. The maximum annual increase or decrease is 4%. Average final compensation used in determining disability benefits for disabled members is similarly adjusted for purposes of determining the recipient's service retirement benefit if and when the recipient moves to service retirement.

Members on service retirement who did not have ten years of service on July 1, 1993 will not receive a cost-of-living adjustment until 12 months after their normal retirement age.

12. Methods of Payment of Service Retirement Benefits:

At retirement, a member who retires with a benefit must choose from the following methods of payment:

Full Benefit: Unadjusted benefit paid for the life of the member only.

Option 1: Cash refund equal to the remaining employee contribution balance, if any, at the date of death (where the employee contribution balance has been reduced each month by the portion of the monthly benefit deemed to be provided by employee contributions).

Option 2: 100% joint and survivor annuity.



APPENDIX C SUMMARY OF PROGRAM AND PLAN PROVISIONS

Option 3: 50% joint and survivor annuity.

Option 4: Joint and survivor annuity at any percentage other than those available under Option 2 and Option 3.

Option 5: Designated percentage of the benefit (not less than 51%) payable to the member, with the remaining percentage (the two to equal 100%) payable to a beneficiary (may only be a sole beneficiary) while both are alive. At the death of either, the higher of the two percentages is paid to the survivor for the survivor's life, and the lower-percentage benefit ceases to be paid.

Option 6: 100% joint and survivor annuity (Option 2) with pop-up*.

Option 7: 50% joint and survivor annuity (Option 3) with popup.*

Option 8: Option 4 with pop-up*.

* The "pop-up" feature attached to a given Option means that in the case of a beneficiary predeceasing the member, the member's benefit will be revised prospectively to the amount that the benefit would have been had the member selected Full Benefit payment upon retirement.

