



Massachusetts Water Resources Authority Employees' Retirement System



Comprehensive Annual Financial Report
For the Year Ended December 31, 2013

Massachusetts Water Resources Authority Employees' Retirement System



Comprehensive Annual Financial Report For the Year Ended December 31, 2013

Prepared by the Staff and Board of the
Massachusetts Water Resources Authority Employees' Retirement System

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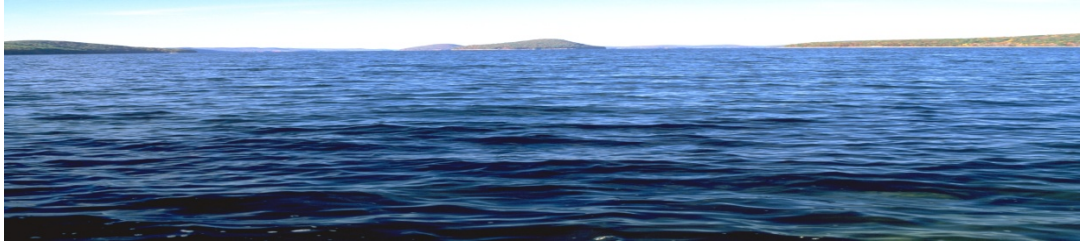
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Introductory Section



MWRA

Employees' Retirement System

Since July 1, 1985

June 26, 2014

Dear Members of the MWRA Employees' Retirement System and interested readers:

On behalf of the MWRA Employees' Retirement System Board, I am pleased to present the Comprehensive Annual Financial Report (CAFR) of the MWRA Employees' Retirement System (MWRAERS) for the year ended December 31, 2013. The report is designed to provide a detailed look at the financial, investment and actuarial aspects of the MWRAERS.

A comprehensive report is being issued in the interest of full disclosure to the MWRAERS's members and to demonstrate the diligent stewardship and internal controls that are in place to protect assets and maintain financial integrity. This is the MWRAERS's first CAFR and we are confident that it will be awarded the Certificate of Achievement for Excellence in Financial Reporting, a very prestigious award that only a few public retirement systems in New England have received.

The Board typically meets at least once a month to discuss and review benefit and investment issues and conduct due diligence on those investments. It is the fiduciary responsibility of the Board to insure that current and future pensions will be paid. Therefore, safeguarding the MWRAERS's investment portfolio is a top priority. The MWRAERS has an investment policy that incorporates an asset allocation with a long-term time horizon consistent with participant demographics containing asset classes that involve investment risk to reap the rewards of potential stellar returns but to also diversify those assets to mitigate risks during the inevitable times when certain asset classes experience sub-par returns.

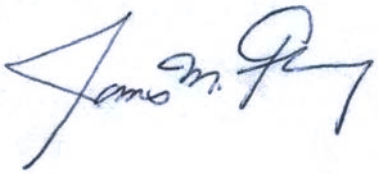
The investment climate became much more favorable in 2013 than it was in recent past years as an improving economy and stimulus from central banks helped to propel the markets. All asset classes in the MWRAERS's portfolio had positive returns during the year with Small and Large Cap Domestic Equities having the biggest gains followed by hedge funds, real estate, private equity, balanced funds and fixed income. Hedge funds and fixed income strategies provided downside protection and had positive if not best in class returns during the year. The time weighted investment return was 16.3%, beating the actuarial benchmark of 8.00%.

2013 net investment income was \$57.0 million up from \$38.7 million in 2012. The unfunded actuarial accrued liability as of January 1, 2013 was \$43.8 million and the funded ratio was 88.6%. An interim study done as of January 1, 2014 projects the funded ratio has increased to 94.1% on an actuarial basis. Full valuations are done every two years with an interim valuation study done in-between. The MWRAERS remains on track to have the unfunded actuarial accrued liability fully funded by 2024, 16 years sooner than the Commonwealth of Massachusetts requirement of 2040.

I would like to thank the other members of the Board for their diligence on retirement matters and the Board's investment consultant, actuary and independent auditors for their assistance with the preparation of this report and advice on other matters. I would also like to thank the Board's legal representatives for their counsel and the Public Employee Retirement Administration Commission for their oversight of our actions.

Finally, I would like to commend the staff of MWRAERS for their diligent work in preparing this report and their commitment to continually improving administrative operations. I encourage members to carefully review this report as it contains a wealth of information about your retirement system.

Sincerely,

A handwritten signature in blue ink that reads "James M. Fleming". The signature is written in a cursive style with a large, stylized "F" and "M".

James M. Fleming, Esq.
Chairman



MWRA

Employees' Retirement System

Since July 1, 1985

June 26, 2014

MWRA Employees' Retirement Board
2 Griffin Way
Chelsea, MA 02150

Dear Mr. Chairman and Members of the Board:

We are pleased to submit the Comprehensive Annual Financial Report (CAFR) of the MWRA Employees' Retirement System (MWRAERS) for the year ended December 31, 2013. This is our first time preparing a CAFR and we believe that it meets the requirements of the Government Finance Officers Association of the United States and Canada (GFOA) Certificate of Achievement for Excellence in Financial Reporting program and we are submitting it to the GFOA to determine its eligibility.

GASB Statement No. 34 requires that management provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The MWRAERS's MD&A can be found immediately following the report of the independent auditor.

History of the MWRAERS

The MWRAERS was established as part of the Enabling Act in 1984 and became operative on July 1, 1985. The MWRAERS is a contributory defined benefit plan that covers eligible employees of the Massachusetts Water Resources Authority (MWRA). The MWRAERS is administered by a five member Board consisting of the MWRA's Board of Director's Secretary, the MWRA's Treasurer (MWRA appointed member), two representatives elected from the membership, and a fifth member chosen by the other four who cannot be an employee, retiree or official of the MWRA. One Board member is elected from the group to serve as Chairman.

Investment Results

The MWRAERS has an Investment Policy Statement which establishes investment objectives and policies providing the framework for investments. This Policy is reviewed on an annual basis. A summary of the Investment Policy is included in the Investment Section. The System uses a custodian bank to safeguard the assets and ensure proper settlement and recording of transactions.

An integral part of the overall investment policy is the asset allocation policy. This is designed to provide an optimal mix of asset classes to both preserve principal and provide adequate funds to pay pension benefits. Assets are allocated over various asset classes such as domestic and international equity, emerging markets equity, fixed income, hedge funds, real estate, private equity and global assets. The investment market results have demonstrated the importance of a diversified asset allocation.

MWRAERS's time-weighted investment return of 16.3% for 2013 was more than both the actuarial expected rate of return and the Investment policy benchmark. Please refer to the Investment Section of this CAFR for more information on investment results.

Chapter 68 of the Acts of 2007, An Act to Reduce the Stress on Local Property Taxes Through Enhanced Pension Fund Investment, was signed into law July 25, 2007. This Act amends MGL chapter 32 section 22 and directs the Public Employee Retirement Administration Commission (PERAC) to conduct an annual analysis of all Massachusetts public pension plans. The assessment includes the investment performance and funded ratio of each system every January 1st in accordance with the established methodology and standard. Systems failing to meet the standard are mandated to transfer the systems assets to the Massachusetts Pension Reserve Investment Management (PRIM) Board. The MWRAERS met these mandated standards for each year since 2007 and is not subject to the mandatory transfer of system assets.

Major Initiatives

Benefits

A cost of living adjustment (COLA) was granted to eligible retirees and survivors effective July 1, 2013. The 3% COLA was paid on a base of \$12,000 (maximum benefit of \$360 per year). The MWRAERS has granted the maximum 3% allowed by law since enactment of the legislation in 1997.

Signed into law on November 18, 2011, Chapter 176 of the Acts of 2011 became effective February 16, 2012 and is thought to reform and modernize the pension laws for Public employees in Massachusetts. The law creates a new benefit structure for employees hired on or after April 2, 2012. The new age factors established will increase the minimum age for retirement. Calculation of the pension will use a 5 year average and contains anti-spiking provisions for both new members and current employees.

Administration

We are pleased to report that in January 2013 Frank Zecha was reappointed as the Fifth member for a three year term and Joseph Foti, the Secretary for the Board of Directors of the MWRA was reappointed for a one year term in November 2013.

Chapter 176 of the Acts of 2011 has a number of corporate governance provisions that requires the MWRAERS to adhere to specific procurement procedures for investment management and related services. The Act also mandates training and financial disclosures of all Board members.

The MWRAERS strives to provide quality service and information to active and retired members and their beneficiaries. To assist in this effort, we maintain and continually update our Internet site, at www.mwraretirement.com.

Internal and Budgetary Controls

The MWRAERS's management is responsible for maintaining a system of internal controls designed to provide reasonable, but not absolute, assurance that the financial statements are fairly stated in accordance with accounting principles generally accepted in the United States of America while adequately safeguarding the assets. We believe the current internal controls accomplish this goal. The concept of reasonable assurance recognizes that the cost of internal controls should not exceed their anticipated benefits.

The MWRAERS's budget is presented to and approved by the Board each year. All expenses are reviewed by the Board at its monthly meeting and compared to the budget on a year-to-date basis.

Accounting

This report has been prepared in accordance with accounting principles generally accepted in the United States of America. The basic financial statements are presented in accordance with the principles of the Government Accounting Standards Board (GASB), including guidelines established by GASB Statements No. 25, Financial reporting for defined benefit plans; No. 34, Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments; No. 37, Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments: Omnibus, No. 38, Certain Financial Statement Note Disclosures; and No. 40 Deposit and Investment Risk Disclosures (an amendment of GASB No. 3) and No. 63 Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net position.

CliftonLarsonAllen LLP (CLA), a firm of licensed certified public accountants, performed the audit for the MWRAERS for the year ended December 31, 2013. The goal of the independent audit is to provide reasonable assurance that the financial statements for the year ended December 31, 2013 are free of material misstatement. The report of the independent auditors is included in the Financial Section of this report. CLA has issued an unmodified opinion on the MWRAERS's financial statements for the year ended December 31, 2013.

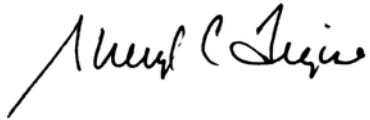
Actuarial Funding

The MWRAERS has retained the services of The Segal Company, an independent actuarial firm, to conduct biennial actuarial valuations of the MWRAERS. The funded ratio is one measure of the financial condition of the MWRAERS. The funded ratio is calculated by dividing the net assets of the MWRAERS by the projected pension liability. The projected pension liability is a measure of the present value of total pension benefits estimated to be payable in the future to both current and future retirees and/or beneficiaries. A higher funding ratio gives the members a greater degree of assurance that their pension benefits are secure. As of January 1, 2013, the funded ratio of the MWRAERS was calculated at 88.6% using the actuarial value of assets. On a market value basis the funded ratio was 91.0%.

Acknowledgements

We are pleased to have completed this report in accordance with the GFOA Certificate of Achievement guidelines. We are proud to provide an annual report to our members that is both easy to read and comprehensive. We feel it is important to provide a CAFR so that our members and other interested parties may follow the progress of the MWRAERS. The publication of this report represents the combined efforts of the MWRAERS's board, staff, auditor, actuary, and investment consultants. We would like to acknowledge and thank them for their hard work and collaboration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Sheryl C. Trezise". The signature is written in a cursive, flowing style.

Sheryl C. Trezise
Executive Director

Retirement Board Members

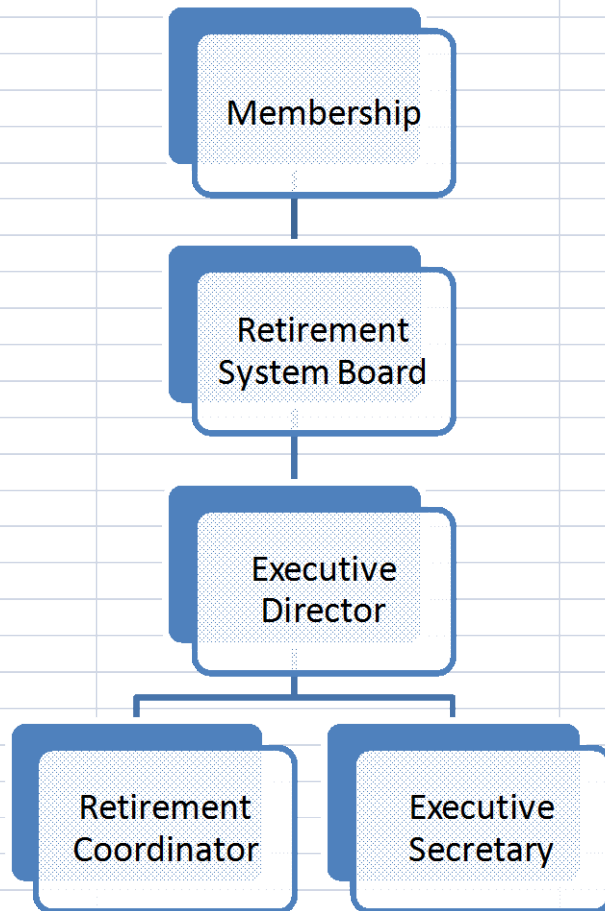
		Term Expiration
Joseph C. Foti	Ex-Officio Member	1/14/2014
Thomas J. Durkin	Appointed Member	6/30/2014
James M. Fleming	Elected Member	6/30/2015
Daniel K. O'Brien	Elected Member	4/29/2014
Frank Zecha	Member Appointed by Other Members	1/24/2016

Retirement Board Staff

Sheryl Trezise	Executive Director	
Julie McManus	Retirement Coordinator	
Janet DiGregorio	Executive Secretary	

Organizational Chart

This Chart does not include Investment professionals who provide services to the MWRERS. A list of these investment professionals is located on the following page.



Consultants, Fund Managers and Professionals

Fund Managers

Ascent Venture Partners, Boston, Massachusetts

Private Equity - Ascent Fund II
Private Equity - Ascent Fund IV

Private Equity - Ascent Fund V

Boston Capital Ventures, Boston, Massachusetts

Private Equity - Ventures III

Castile Ventures, Wellesley, Massachusetts

Private Equity - Castile Ventures III, L.P

Cerberus Capital Management L.P. , New York, New York

Real Estate

Entrust, New York, New York

Hedge Fund of Funds

Foundry Group, Boulder, Colorado

Private Equity - Foundry 2007

Private Equity - Foundry 2010

Intech, A Janus Capital Group Company, West Palm Beach, Florida

Large Cap - Broad Large Cap Growth

Intercontinental Real Estate Corporation, Boston, Massachusetts

Real Estate - Investment Fund IV

Invesco, New York, New York

Fixed Income - Core Bonds

Fixed Income - Mortgage Fund

Private Equity - Invesco Fund IV

Private Equity - Invesco Fund VI

Landmark Partners, Simsbury, Connecticut

Real Estate - Landmark VI

Private Equity - Landmark XV

Lee Munder Capital Group, Boston, Massachusetts

Emerging Market Equity

Loomis Sayles, Boston, Massachusetts

Small Cap - Small Cap Growth

Fixed Income - Multi Sector Bonds

Mesirow Financial, Chicago, Illinois

Real Estate - MFIRE Global Real Estate Investment Program II

MFS Investment Management, Boston, Massachusetts

Large Cap - Large Cap Value

Morgan Stanley, New York, New York

Real Estate - Prime Property

PIMCO Investment LLC, New York, New York

Balanced Investment - PIMCO All Asset

Pinebridge Investments, New York, New York

Private Equity - PEP Fund V

Permal Capital Management LLC, Boston, Massachusetts

Hedge Fund of Funds - Fixed Income Holdings

Public Retirement Investment Trust (PRIT), Boston, Massachusetts

Balanced Investment - PRIT Core Fund

Hedge Fund - Fund of Funds, Absolute Return Fund

Real Estate - PRIM Core Real Estate

Private Equity - Vintage Year 2008

Private Equity - Vintage Year 2009

Private Equity - Vintage Year 2010

Private Equity - Vintage Year 2011

Private Equity - Vintage Year 2012

The Realty Associates, Boston, Massachusetts

Real estate - Fund X UTP

Robeco Boston Partners, Boston, Massachusetts

Small Cap - Small Cap Value

Rumblin Advisors, Boston, Massachusetts

Large Cap - S&P 500 Index Fund

Schroder Investment Management, New York, New York

International Equity - Alpha Fund

The Boston Company Asset Management, LLC, Boston, Massachusetts

International Equity - International Equity Fund

Wellington Management Company, LLP, Boston, Massachusetts

Balanced Investment - Opportunistic Investment

Custodian

State Street Bank, Boston, Massachusetts

Legal Advisors

The Law Offices of Thomas F. Gibson, Cambridge, Massachusetts

Actuary

Segal Consulting, Boston, Massachusetts

Investment Consultant

NEPC, LLC, Boston, Massachusetts

Independent Auditors

CliftonLarsonAllen LLP, Burlington, Massachusetts

Commission Recapture Brokers

Abel Noser, New York, NY

ConvergEx Group, New York, NY

Securities Fraud Monitoring

Berman DeValerio, Boston, MA

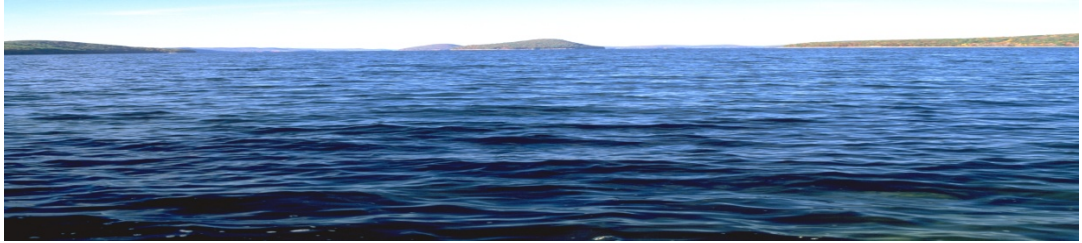
Labaton Sucharow, New York, NY

Milberg, New York, NY

Robbins Geller, Philadelphia, PA



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Financial Section

Independent Auditors' Report

To the Honorable Retirement Board
Massachusetts Water Resources Authority Employees' Retirement System

Report on the Financial Statements

We have audited the accompanying financial statements of the Massachusetts Water Resources Authority Employees' Retirement System (the System), as of and for the year ended December 31, 2013, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of December 31, 2013, and the respective change in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (located on pages 15 through 18) and historical pension information (located on page 30) be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the System's financial statements. The supplementary information, introductory section, investment section, actuarial section and statistical section are presented for purposes of additional analysis and are not a required part of the financial statements.

The supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory section, investment section, actuarial section and statistical section have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 26, 2014 on our consideration of the System' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

A handwritten signature in cursive script that reads "CliftonLarsonAllen LLP".

CliftonLarsonAllen LLP

Boston, Massachusetts
June 26, 2014

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2013

As management of the Massachusetts Water Resources Authority Employees' Retirement System (System), we offer readers of these financial statements this narrative overview and analysis of the System's financial activities for the year ended December 31, 2013.

Financial Highlights

The System's funding objective is to meet long-term benefit obligations through contributions and investment income. As of January 1, 2013, the latest actuarial valuation, the funded ratio was 88.6% based on the actuarial value of assets at that date.

The System's net position increased by \$65,486,511, or 18.7%, when compared to the prior year's net position. Net position is the residual of the System's assets in excess of the System's liabilities as of the statement date. The System's assets are held in trust to meet future benefit payments.

Total investment gains were \$56,951,114. The time-weighted investment return of 16.3% was more than both the actuarial expected rate of return and the Investment policy benchmark

Overview of the Financial Statements

The financial statements are comprised of a Statement of Plan Net Position, Statement of Changes in Plan Net Position, Notes to the Financial Statements and Required Supplementary Information.

The **statement of plan net position** presents information on the System's assets and liabilities and the resulting net position held in trust for pension benefits. This is calculated using the following formula: Assets – Liabilities = Net Position held in trust for pension benefits. This statement reflects the System's investments at fair value, as well as cash, receivables and liabilities. The Statement of Plan Net Position reports the financial position of the System at December 31, 2013. Over time, the increase or decrease in net position serves as a useful indicator of the System's financial health.

The **statement of changes in plan net position** presents information showing how the System's net position changed during the year ended December 31, 2013. It reflects contributions by its individual members and participating employer along with deductions for retirement benefits, refunds, withdrawals, and administrative expenses. Investment income during the period is also presented showing income from investing activities.

The **notes to the financial statements** provide additional information that is essential for the reader to gain a full understanding of the data provided in the financial statements.

The **required supplementary information** includes historical data regarding the schedules of funding progress and employer contributions.

Financial Analysis

The System's total assets as of December 31, 2013 were \$416,674,957 and were comprised of cash and cash equivalents, investments, and receivables. Total assets increased approximately \$65 million, or 18.6%, from the prior year primarily due to investment gains.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2013

Total liabilities as of December 31, 2013 were \$323,464 and represent accounts payable, accrued expenses and amounts due to the MWRA. Total liabilities decreased approximately \$39,000.

The following tables present current and prior year data on the System's financial statements.

Plan Net Position

Net position was \$416,351,493 at the close of the year and is summarized as follows:

Statement of Plan Net Position

	2013	2012
Assets		
Cash and cash equivalents.....	\$ 8,795,592	\$ 8,472,815
Investments.....	407,869,311	342,664,380
Receivables, interest and dividends.....	10,054	89,962
Total assets.....	416,674,957	351,227,157
Liabilities		
Accounts payable and accrued expenses.....	260,907	301,193
Due to MWRA.....	62,557	60,982
Total liabilities.....	323,464	362,175
Plan Net Position		
Net position held in trust for pension benefits.....	\$ 416,351,493	\$ 350,864,982

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2013

Changes in Plan Net Position

The System's net position increased by \$65,486,511 during the year and is summarized as follows:

Statement of Changes in Plan Net Position

	2013	2012
Additions		
<i>Contributions:</i>		
Employer.....	\$ 12,447,338	\$ 12,341,893
Plan members.....	7,948,445	7,855,760
Reimbursements and transfers from other systems.....	1,018,293	938,285
<i>Net investment income:</i>		
Net realized and unrealized gains (losses).....	50,694,203	33,365,351
Interest and dividends.....	8,830,712	7,237,330
Less investment fees.....	(2,573,801)	(1,903,787)
 Total additions.....	 78,365,190	 59,834,832
 Deductions		
Benefits and refunds paid to plan members and beneficiaries.....	11,845,491	10,502,731
Reimbursements and transfers to other systems.....	622,410	244,310
Administrative expenses.....	410,778	383,802
 Total deductions.....	 12,878,679	 11,130,843
 Change in plan net position.....	 65,486,511	 48,703,989
 Plan net position - beginning of year.....	 350,864,982	 302,160,993
 Plan net position - end of year.....	 \$ 416,351,493	 \$ 350,864,982

Additions to Plan Net Position

The amount needed to finance benefits is accumulated through the collection of employer and plan member contributions, earnings on investments and reimbursements and transfers from other systems. These additions resulted in an increase to net position totaling \$78,365,190 during the current year versus an increase of \$59,834,832 in the previous year. The 2013 and 2012 employer contributions represent 210.6% and 214.4%, respectively, of the annual required contribution. The System had a net investment gain of \$56,951,114 in 2013 versus a gain of \$38,698,894 in 2012.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2013

Deductions from Plan Net Position

The primary deductions of the System include the payment of pension benefits to participants and beneficiaries, refunds of contributions, and the costs of administering the System. Total deductions to net position totaled \$12,878,679 during the current year versus \$11,130,843 in the previous year. The payment of pension benefits increased by \$1,342,760, or 12.8%, over the previous year. The increase in these expenses resulted from an increase in benefit payments to newer retirees with higher average compensation and an increase of 35 retirees.

Overall Financial Position

Due to a continuous improvement in the financial markets, the System has experienced an increase in its investment portfolio for the fiscal year ending December 31, 2013. Management believes the System is in a solid financial position and will be able to meet its obligations.

Requests for Information

This financial report is designed to provide the Board, our membership, taxpayers, investors, and creditors with a general overview of the System's financial results and to demonstrate the System's accountability for the funding it receives. If you have any questions about this report or need additional financial information, contact the Executive Director at 2 Griffin Way, Chelsea, Massachusetts 02150.



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MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF PLAN NET POSITION
DECEMBER 31, 2013

Assets	
Cash and cash equivalents.....	\$ <u>8,795,592</u>
Investments:	
Fixed income.....	108,159,393
Equities.....	166,047,034
Real estate.....	10,671,749
Alternative.....	89,969,475
PRIT (external investment pool).....	<u>33,021,660</u>
Total investments.....	<u>407,869,311</u>
Receivables:	
Receivable for investments sold.....	<u>10,054</u>
Total plan assets.....	<u>416,674,957</u>
Liabilities	
Accounts payable and accrued expenses.....	260,907
Due to MWRA.....	<u>62,557</u>
Total plan liabilities.....	<u>323,464</u>
Net position held in trust for pension benefits	\$ <u><u>416,351,493</u></u>

The accompanying notes are an integral part of the financial statements.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF CHANGES IN PLAN NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2013

Additions:

Contributions:	
Employer.....	\$ 12,447,338
Plan members.....	7,948,445
Reimbursements and transfers from other systems.....	<u>1,018,293</u>
Total contributions.....	<u>21,414,076</u>
Investment income (loss):	
Interest and dividends.....	8,830,712
Net realized and unrealized gains.....	50,694,203
Less: investment fees.....	<u>(2,573,801)</u>
Net investment income.....	<u>56,951,114</u>
Total additions.....	<u>78,365,190</u>

Deductions:

Benefits and refunds paid to plan members and beneficiaries.....	11,845,491
Reimbursements and transfers to other systems.....	622,410
Administrative expenses.....	<u>410,778</u>
Total deductions.....	<u>12,878,679</u>
Change in plan net position.....	65,486,511

Net position held in trust for pension benefits:

Beginning of year.....	<u>350,864,982</u>
End of year.....	<u>\$ 416,351,493</u>

The accompanying notes are an integral part of the financial statements.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Reporting Entity

The Massachusetts Water Resources Authority Employees' Retirement System (System) was established to provide pension benefits to Massachusetts Water Resources Authority (Authority) employees and their beneficiaries. The System is governed by a five-member board comprised of the Secretary of the Authority's Board (ex-officio), two members elected by the System's participants, one member appointed by the Authority's Board and one member appointed by the System's Board members.

B. Basis of Accounting

The accompanying financial statements are presented on the accrual basis of accounting as prescribed by the Governmental Accounting Standards Board (GASB).

C. Cash, Cash Equivalents and Investments

Cash and cash equivalents is considered to be cash on hand, demand deposits and short-term investments with an original maturity of three months or less from the date of acquisition.

Investments are reported at fair value. Fair values of investments are based on quotations from a national securities exchange except for pooled funds, alternative and real estate investments, for which fair values are estimated as detailed below.

Pooled Funds

The fair value of shares in managed investment pools is based on unit values reported by the funds.

Alternative Investments

Alternative investments are recorded at fair value as determined in good faith by the general partners of the venture capital firms after consideration of pertinent information, including current financial position and operating results, price-earnings multiples and available market prices of similar companies' securities, the nature of securities, marketability, restrictions on disposition and other appropriation and do not necessarily represent amounts which might ultimately be realized, since such amounts depend on future circumstances and cannot reasonably be determined until individual securities are liquidated.

Real Estate

The fair value of real estate funds is based on independent third-party appraisals. The investment managers of the funds are responsible for the reported value of those investments. However, because of the inherent uncertainty of valuation, those estimated values may differ significantly from the values that would have been used had a ready market for the real estate existed, and the differences could be material.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

D. Basis of Investment Transactions

Purchases and sales of investments are recorded on the trade date. Transactions remaining unsettled as of year-end are recorded as payables for securities purchased and as a receivable for securities sold.

E. Revenue Recognition

Contributions are recognized as additions in the period when they become due pursuant to formal commitments, statutory or contractual requirements. Investment income is recognized when earned.

F. Benefits and Refunds

Benefits and refunds to System members and beneficiaries are recognized as deductions when due and payable in accordance with the terms of the System.

G. Administrative Expenses

Administrative expenses are financed by investment income.

H. Due to MWRA

MWRA pays the System's employees' weekly payroll. At December 31, 2013, \$62,557 is owed to MWRA from the System for these costs.

I. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Fair values of real estate funds and alternative investments have been estimated in the absence of readily available market values, and these estimates may be materially different than values that would have been used had a ready market existed.

NOTE 2 – PLAN DESCRIPTION

A. General

The System is a single employer public employee retirement system established by the Authority on July 1, 1985, under Massachusetts General Laws (MGL), Chapter 32, and is regulated by the Massachusetts Public Employee Retirement Administration Commission (PERAC). The System is a defined benefit pension plan that covers employees of the Authority.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

Membership in the System is mandatory immediately upon the commencement of employment for all permanent full-time employees working at least 18.75 hours weekly.

Membership in the System was as follows at December 31, 2013:

Active members.....	1,091
Inactive members.....	100
Disabled members.....	57
Retirees and beneficiaries currently receiving benefits.....	<u>374</u>
Total.....	<u><u>1,622</u></u>

B. Significant Plan Provisions and Requirements

Benefit provisions and state law establishes contribution requirements of the System. Members of the System become vested after 10 years of creditable service. Normal retirement occurs at age 65.

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 65, this percentage is 2.5%, which is reduced for individuals who retire prior to age 65 to reflect the longer pay out period.

For employees hired on or after April 2, 2012, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by (1) the number of years and full months of creditable service at the time of retirement and (2) a percentage based on age at retirement in accordance with a schedule provided by state law. Assuming normal retirement at age 67, this percentage is 2.5%.

Employees hired prior to April 2, 2012, may elect early retirement after 20 years of service or at any time after attaining age 55 with 10 years of eligible service. Plan members who become permanently and totally disabled may be eligible to receive a disability retirement allowance. The amount of benefits to be received depends on several factors, including the member's age, compensation, veteran status, years of service and whether or not the disability is work-related. In addition, certain death benefits exist for beneficiaries of employees who die in active service.

Under MGL, Chapter 32 Section 3(8)(c), members leaving the Authority's employment to work for other Massachusetts governmental units requires the System transfers their accumulated account balances and creditable service to the retirement system of their new employer. Other such retirement systems are in turn required to make comparable transfers to the System for employees coming to work at the Authority. Per statute, the PERAC actuary shall consider length of service as well as acceptance of military service credit and salary cap provisions if applicable in calculating the liability.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

NOTE 3 – DEPOSITS AND INVESTMENTS

Deposits and investments made of the System are governed by Chapter 32 of the MGL. The System has the ability to invest in equity securities, corporate bonds, annuities and other specified investments in accordance with state laws and regulations.

Deposits - Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System's policy for custodial credit risk of deposits is to rely on FDIC insurance. As of December 31, 2013, the System was not exposed to custodial credit risk.

Investments Summary

The System's investments at December 31, 2013 are presented below. All investments are presented by investment type, with debt securities presented by maturity.

Investment Type	Fair Value	Investment Maturities (in Years) Less Than 1
<u>Debt Securities:</u>		
Money market mutual funds.....	\$ 8,785,592	\$ 8,785,592
Fixed income securities.....	108,159,393	108,159,393
External investment pools.....	33,021,660	33,021,660
Total debt securities.....	149,966,645	\$ 149,966,645
<u>Other Investments:</u>		
Equity securities.....	166,047,034	
Real estate investments.....	10,671,749	
Alternative investments.....	89,969,475	
Total other investments.....	266,688,258	
Total investments.....	\$ 416,654,903	

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

Investments - Interest Rate Risk of Debt Securities

Interest rate risk for debt securities is the risk that changes in interest rates of debt securities will adversely affect the fair value of an investment. The System's policy for interest rate risk is the duration of the portfolio should be consistent with the appropriate indices. Unless otherwise agreed to, the duration of the portfolio must be within 25% of the appropriate benchmark.

Investments - Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The System's policy for custodial credit risk of investments intends that all investments are either insured and/or registered in the name of the System. As of December 31, 2013, the System was not exposed to custodial credit risk.

Investments - Credit Risk of Debt Securities

Credit risk for debt securities is the risk that an issuer or other counterparty to a debt security will not fulfill its obligations. The System's policies for credit risk of debt securities include the minimum quality rating at the time of purchase cannot be below a rating of CCC. Non-rated securities may comprise 10% of the portfolio, provided that the applicable manager determines that, if such an issue was rated, it would be allowed under the above limitation and that the non-rated issue is deemed to be below BAA (investment grade). Compliance with credit ratings provided by Moody's, Standard & Poor's and Fitch is not sufficient for an issue to be deemed an appropriate investment. The managers are responsible for making an independent analysis of the credit-worthiness of securities.

As of December 31, 2013, the credit quality ratings of the System's debt securities are unrated by the rating scale of Standard & Poors, a national credit rating organization.

Deposits and Investments – Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment or a deposit. The System does not have a policy regarding foreign currency risk. As of December 31, 2013, the System was not exposed to foreign currency risk

Investments – Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. The System's policy for concentration of credit risk is that not more than 5% of the market value of the System's portfolio can be invested in the debt obligations of any one issuer, with the exception of securities issued by the U.S. Government, or its agencies, which may be held without limitation. As of December 31, 2013, the System was not exposed to concentration of credit risk.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

NOTE 4 – FUNDING POLICY

Chapter 32 of the MGL governs the contributions of plan members and the Authority. Depending on their employment date, active System members must contribute anywhere between 5%-9% of their gross regular compensation. Members hired after December 31, 1978 must contribute an additional 2% of regular compensation in excess of \$30,000. These deductions earn interest at a rate determined by PERAC that vests based upon years of service. The Authority is required to pay into the System 100% of the actuarially determined contribution.

Cost-of-living adjustments (COLA's) must be granted by the Board and are the responsibility of the System. COLA may be approved in excess of the Consumer Price Index but not to exceed 3% of the base retirement allowance.

The funded status of the System at January 1, 2013, the most recent actuarial valuation date, is as follows:

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) Entry Age (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A/B)	Covered Payroll (C)	UAAL as a Percentage of Covered Payroll ((B-A)/C)
01/01/13	\$ 341,515,023	\$ 385,296,073	\$ 43,781,050	88.6%	\$ 84,829,033	51.6%

The schedules of funding progress, presented as required supplementary information (RSI) following the notes to the financial statements, present multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the AAL for benefits.

The significant methods and assumptions of the latest actuarial valuation are as follows:

Valuation date:	January 1, 2013
Actuarial cost method:	Entry age normal
Amortization method:	4.50% increasing
Remaining amortization period:	11 years as of July 1, 2013 (open)

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

Asset valuation method: The market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the expected return and the actuarial investment rate on a market value is recognized over a five-year period. The actuarial value of assets is adjusted, if necessary, to be within 10% of the market value.

Actuarial assumptions:

Investment rate of return: 8.00%

Projected salary increases: Based on years of service, ranging from 7.00% decreasing to 4.75% after 9 years of service

Cost of living adjustments: 3.00% of first \$12,000 of retirement income

NOTE 5 – LEGALLY REQUIRED RESERVE ACCOUNTS

The balances in the System’s legally required reserves as of December 31, 2013 are as follows:

Description	Amount	Purpose
Annuity Savings Fund....	\$ 111,917,112	Active members' contribution balance
Annuity Reserve Fund...	20,954,109	Retired members' contribution account
Military Service Fund....	151,294	Members' contribution account while on military leave
Pension Reserve Fund...	239,442,744	Amounts appropriated to fund future retirement
Pension Fund.....	<u>43,886,234</u>	Remaining net position
Total.....	<u>\$ 416,351,493</u>	

All reserve accounts are funded at levels required by state law.

NOTE 6 – COMMITMENTS

As of December 31, 2013, the System had commitments totaling approximately \$40,000,000 to 26 private equity markets funds. Of the 26 funds in the System’s private markets portfolio, 9 funds are in the investing stage, 14 funds are in the harvesting stage, 2 funds are in the liquidation stage and 1 fund is completed.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 2013

NOTE 7 – FUTURE IMPLEMENTATION OF GASB PRONOUNCEMENTS

In June of 2012, the GASB issued Statement No. 67, *Financial Reporting for Pension Plans – an Amendment of GASB Statement No. 25*, which is required to be implemented for periods beginning after June 15, 2013. Key changes required by the Statement include:

- Incorporating ad-hoc projected postemployment benefit changes, including COLA, into projections of benefit payments if the employer's past practice and future expectations of granting them are substantively automatic.
- Using a discount rate that reflects (1) the expected long-term rate of return on pension plan investments to projected benefit payments for which plan assets are expected to be available to make projected benefit payments and (2) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale), to the extent that the conditions in (1) are not met

The implementation of this Statement will also expand note disclosures and required supplementary information.

This pronouncement will be implemented in 2014.

This information is an integral part of the accompanying financial statements.

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
 REQUIRED SUPPLEMENTARY INFORMATION
 DECEMBER 31, 2013

The following reflects the Schedules of Funding Progress under the Entry-Age-Normal Actuarial Cost Method, which is the required method for all retirement systems governed by Chapter 32 of the MGL.

Schedules of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (AAL) Entry Age (B)	Unfunded AAL (UAAL) (B-A)	Funded Ratio (A/B)	Covered Payroll (C)	UAAL as a Percentage of Covered Payroll ((B-A)/C)
01/01/13	\$ 341,515,023	\$ 385,296,073	\$ 43,781,050	88.6%	\$ 84,829,033	51.6%
01/01/11	299,331,000	341,521,000	42,190,000	87.6%	82,870,000	50.9%
01/01/10	276,270,000	319,876,000	43,606,000	86.4%	81,962,000	53.2%
01/01/09	222,477,000	301,652,000	79,175,000	73.8%	82,314,000	96.2%
01/01/07	211,716,000	255,962,000	44,246,000	82.7%	75,444,000	58.6%
01/01/05	172,512,000	172,512,000	-	100.0%	65,790,000	0.0%

Schedule of Employer Contributions

Year Ended December 31	Annually Required Contribution (ARC)	Contribution	Percentage of ARC Contributed (%)
2008	\$ 5,314,218	\$ 15,188,791	285.8%
2009	5,586,768	5,450,496	97.6%
2010	5,342,856	8,136,240	152.3%
2011	5,488,792	5,488,792	100.0%
2012	5,750,085	12,326,022	214.4%
2013	5,903,107	12,431,514	210.6%

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
SUPPLEMENTARY INFORMATION
DECEMBER 31, 2013

Schedule of Administrative Expenses

The composition of administrative expenses for the year ended December 31, 2013 is as follows:

Personal services	
Salaries	<u>\$ 267,027</u>
Professional services	
Legal expenses	35,271
Medical expenses	305
Professional services	1,238
Actuarial Services	14,000
Accounting Services	<u>22,000</u>
Total professional services	<u>72,813</u>
Other Expenses	
Fiduciary insurance	10,456
Service contracts	32,464
Education and training	4,946
Administrative expenses	16,790
Furniture and equipment	1,865
Travel	<u>4,416</u>
Total other expenses	<u>70,938</u>
Total Expenses	<u><u>\$ 410,778</u></u>

MASSACHUSETTS WATER RESOURCES AUTHORITY EMPLOYEES' RETIREMENT SYSTEM
 SUPPLEMENTARY INFORMATION
 DECEMBER 31, 2013

Schedule of Investment and Consultants' Expenses

Investment fund managers fees	
Total balanced allocation	
Prim Fund General Allocation	\$ 13,804
Wellington Opportunistic	204,368
Large cap domestic equity allocation	
Intech/Janus	118,185
MFS Institutional	139,309
Rhumblin Advisers	21,559
Small cap domestic equity	
Loomis Sayles & Co	78,656
Robeco	159,511
International equity	
The Boston Company	210,331
Fixed income allocation	
Invesco Core Bond	114,788
Invesco Mortgage Recovery	22,116
Loomis Sayles Fixed Income	365,324
Entrust Capital Diversified	113,202
Prim Hedge Fund	243,364
Real estate allocation	
Intercontinental Real Estate	13,957
Mesirow	16,694
Morgan Stanley	59,513
Prim Core Real Estate	51,467
Cerberus	44,785
TA Realty	27,084
Private equity allocation	
Ascent Venture IV	89,619
Ascent Venture V	33,315
Castile Ventures	30,000
Foundry Group 2007	44,141
Foundry Group 2010	28,417
Invesco Partnership IV	6,618
Invesco Partnership VI	8,125
Prim Vintage Year 2008	31,302
Prim Vintage Year 2009	6,027
Prim Vintage Year 2010	12,656
Prim Vintage Year 2011	19,271
Prim Vintage Year 2012	6,678
Total investment fund managers' fees	<u>2,334,186</u>
Custodial fees	
State Street Bank	136,186
Investment consultant fees	
New England Pension Consultants	103,429
Total investment consultants' fees	<u><u>2,573,801</u></u>



Investment Section

REPORT ON INVESTMENT ACTIVITY

The information contained in the Investment Section of the Comprehensive Annual Financial Report (CAFR) has been prepared by NEPC, LLC, acting as the investment consultant for the Massachusetts Water Resources Authority (MWRA) Employees' Retirement System (the 'System'). All investment information herein has been reconciled between the MWRA, the investment managers hired by the MWRA, MWRA's custodian, and NEPC. The investment returns presented herein were calculated in a manner consistent with that specified in the Global Investment Performance Standards (GIPS®), as developed by the CFA Institute.

OUTLINE OF INVESTMENT POLICIES

The purpose of this document is to set forth the goals and objectives for the explicit purpose of:

- Determining the System's projected financial needs,
- Expressing the Board's position with respect to its risk/reward posture,
- Formulating an appropriate set of goals and objectives for the System's assets,
- Defining the strategy to be implemented by the Board in the endeavor of achieving the goals and objectives,
- Identifying a set of guidelines that the consultant can use in formulating corresponding investment recommendations over the next ten-year time horizon, and
- Establishing procedures and a schedule for monitoring the performance of the System in achieving the stated objectives.

I. MWRA Employees' Retirement System Goals

The MWRA Employees' Retirement System is an employee pension plan established in accordance with Chapter 32 of Massachusetts General Laws ('M.G.L., Chapter 32'). The System and Funds are administered by a Retirement Board (the 'Board') consisting of five members: the Ex-Officio, two appointed members, and two members elected by the general membership of the retirement system. This defined benefit plan is maintained to provide retirement, disability, and/or death benefits, as the case may be, to participants in accordance with Massachusetts General Laws.

The Board of the MWRA Employees' Retirement System has as its primary goal to provide promised benefits to participants and beneficiaries of the system. Plan assets should be equal to or greater than the present value of the projected benefit obligations ('fully funded'). When Plan assets are less than the present value of projected benefit obligations, a schedule will be established and a plan will be in place to meet a fully funded status.

II. Investment Objectives

The investment goal of the fund is to achieve the assumed rate of return over the long term, through a prudently diversified portfolio. In order to achieve needed returns within the stated risk tolerance and in order to diversify plan assets so as to minimize the risk associated with the independence on the success of one enterprise, a policy asset mix will be utilized.

A. Risk and Return Objectives

- To use diversification to minimize the risk of large losses associated with the dependence on the success of one enterprise
- The Board has determined that investment growth should be maintained in such a manner that the minimum nominal rate of return does not cause a negative real rate of return over a full market cycle.
- Return volatility of the aggregate asset base of the System will be measured relative to the volatility experienced by a policy benchmark.
- Volatility or risk shall be measured as the annualized standard deviation, utilizing monthly and/or quarterly total rates of return of the aggregate assets of the System.

III. Investment Constraints

A. Legal and Regulatory

The System is a qualified defined benefit pension plan governed by the M.G.L., Chapter 32.

The Board is charged by law with the responsibility for the investment of the assets of the System. To assist the Board in meeting their fiduciary obligation, they are authorized and permitted by the Public Employee Retirement Administration Commission (PERAC) to engage the services of advisors who possess the necessary specialized research facilities and skilled manpower to assure adherence to the 'Prudent Expert Rule' under such statutes as may now or in the future apply to investments of the System. Legal counsel will be retained by the Trustees to review contracts and provide overall advice as to fiduciary compliance to regulatory authorities.

Assets of this Fund shall be invested in a manner consistent with the fiduciary standards established under Code of Massachusetts Regulations 840 ('840 CMR'). The Board shall also use as precedent the Employee Retirement Income Security Act (ERISA).

Every Fiduciary Shall:

- Discharge his or her duties for the exclusive purpose of providing benefits to the participants of the Plan and their beneficiaries.
- Act with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims.
- Diversify by investment of the Plan so as to minimize the risk of large losses unless under the circumstances it is clearly prudent not to do so.
- Operate in accordance with the MWRA Employees' Retirement System's procedures, documents, and instruments.
- Maintain compliance with the Code of Ethics and Standards of Conduct applicable to their assigned duties.

No Fiduciary Shall:

- Deal with the assets of the MWRA Employees' Retirement System for his or her own account or his or her own interest.
- Act in any manner or on behalf of any person or organization whose interests are adverse to the interests of the MWRA Employees' Retirement System, its members, or beneficiaries.
- Cause the MWRA Employees' Retirement System to engage in a transaction which in any way involves a sale, exchange, lease, or transfer of assets to or from, or the use of assets by or for the benefit, or the furnishing of goods, services, or facilities to or by, or the lending of money or extension of credit to or by any party in one's own interest.

B. Time Horizon

Return assumptions will be based on a ten year time horizon, with a review and analysis to be made at least annually to monitor allocations and assumptions. Should a manager deviate from proscribed mandate or expected risk and return profile by a consequential degree, that manager may be reevaluated at any time.

C. Liquidity

Presently, contributions exceed plan withdrawals to provide benefits, payouts, and/or plan expenses. Portfolio liquidity will be managed based on the cash flow needs of the System.

D. Tax Considerations

The MWRA is a tax-exempt entity. Therefore, investments and strategies will be evaluated only on the basis of expected risks and potential returns.

IV. Risk and Return Considerations

When achieving return objectives required to fully fund the system, the Board is intent on controlling risk. Consistency of returns and risk of loss are primary considerations.

The Board also has determined that the annual performance of plan assets should not vary substantially from returns achieved by other public pension funds with similar goals and objectives.

V. Diversification

The System's aggregate equity portfolio (including international equity and emerging market securities) will be diversified by market capitalization, industry, number of issues, and rate of turnover. The System's aggregate fixed income portfolio will be diversified by quality ratings, maturity schedule, industry, number of issues, and rate of turnover. The System's aggregate Global Asset Allocation portfolio allows for enhanced diversification through exposure to new asset categories, enhanced return and reduced volatility in down markets. The System's aggregate real estate portfolio will be invested in both equity and debt, and diversified geographically, by property type, by manager, and by investor. The System's aggregate private equity portfolio will be invested in private equity partnerships, private equity limited liability companies, and discretionary managers investing in private equity partnerships and private equity limited liability companies. The System's aggregate hedge fund portfolio will provide diversified and uncorrelated investments, which will include a broad array of strategies utilizing both liquid and illiquid securities.

The specific degrees of diversification within the above asset classes will be addressed in each manager's investment guidelines.

VI. Asset Allocation

To achieve needed returns within the stated risk tolerance, and to diversify plan assets so as to minimize the risk associated with the dependence on the success of one enterprise, a policy asset mix will be utilized. To accommodate the growth and avoid excess trading costs, the Board also has implemented asset class ranges.

In developing this asset mix, no portion of the portfolio has been allocated to cash. However, when employing a multi-manager investment approach, managers may raise cash balances in accordance with their individual investment guidelines.

A. Permissible Asset Classes

The Board has specifically indicated those asset classes that may be utilized when investing the System's assets, which are summarized as follows:

Asset Type	Asset Class	Purpose
Equity	Large Cap U.S. Stocks	Total Return Potential
Equity	Small Cap U.S. Stocks	Total Return Potential
Equity	Developed International Stocks	Total Return Potential Diversification
Equity	Emerging Markets Stocks	Total Return Potential Diversification
Equity	Private Equity	Total Return Potential Diversification
Fixed Income	Investment Grade Bonds	Return Stability Income
Fixed Income	High Yield Bonds	Total Return Potential Diversification Income
Fixed Income	Non-U.S. Bonds	Total Return Potential Diversification Income
Real Estate	Real Estate	Total Return Potential Diversification Income

Hedge Funds	Absolute Return Strategies	Return Stability Diversification
Fixed Income / Equity	Global Asset Allocation	Total Return Potential Diversification/Reduced Volatility

B. Expected Returns, Risks, and Correlations for Permissible Asset Classes

The risk and return behavior of the System will be driven primarily by the allocation of investments across asset classes. In determining the appropriate allocation, the expected return and risk behavior of each asset class and the likely interaction of various asset classes in a portfolio must and are examined.

C. Long-Term Target Allocations

Based on the investment objectives and constraints of the MWRA Retirement System, and based on an annual review of the asset allocation and asset classes, the Board will specify a long-term target allocation for each class of permissible assets. These targets will be expressed as a percentage of the total portfolio, and will have ranges surrounding them, allowing for the portfolio to maintain policy through market fluctuations.

The long-term target allocations are intended as strategic goals. Thus, it is permissible for the overall System’s asset allocation to deviate from the long-term target, as would likely occur during manager transitions, asset class restructurings, and other temporary changes in the MWRA Retirement System. Deviations from targets that occur due to capital market changes are discussed after the following table:

Asset Allocation Targets

	Target (%)	Range (%)
Domestic Stocks¹	18%	10-30%
International Stocks²	17%	10-25%
Domestic Bonds³	25%	15-40%
Real Estate	6%	0-10%

¹ Includes large and small cap stocks

² Includes developed and emerging markets

³ Includes high yield and non-U.S. bond holdings

Private Equity	9%	0-12%
Hedge Funds/Absolute Return	9%	0-12%
Global Asset Allocation	16%	5-25%
Cash	0%	0-10%

D. Rebalancing

Surplus cash flows shall be utilized to maintain the asset management structure. Should these cash flows not be sufficient to reallocate the Plan according to the policy, the transfer of assets may occur between managers.

E. Changes to Asset Allocation

At least annually, the Board will reevaluate the portfolio weightings by asset class and adjustments shall be made accordingly.

VII. Review of Investment Policy, Asset Allocation, and Performance

Policy guidelines will be fixed annually by the Board after consideration of the advice and recommendations of the consultant. All modifications of policy guidelines shall be in writing and signed by each of the acting Board members.

VIII. Trading and Proxy Voting by Investment Managers

All transactions are to be governed by negotiation for execution on a ‘best execution basis.’ The lowest commission cost may not represent the best execution. Investment managers shall be responsible for determining best execution of trades within their assigned portfolio.

Proxy voting shall be implemented by the manager in compliance to policies established by the manager approved by the Board as well as policies included in the investment policy statement. The manager is to report on all votes that are cast and the reason behind their decisions on a semi-annual basis.

IX. Management Structure

To diversify the System’s assets so as to minimize the risk associated with dependence on the success of one enterprise, the Board has decided to employ a multi-manager team approach to investing System assets.

A consultant will be employed whose fiduciary responsibilities will be to provide investment advice, including: 1) risk and return assumptions on investments, 2) diversification of System assets so as to minimize risk, while attempting to achieve the System’s return objectives, and 3) evaluating, monitoring, and reporting the total portfolio and investment manager returns and compliance to policy guidelines. The consultant is responsible for monthly and quarterly reporting.

Asset managers will be employed to utilize individual expertise within their assigned area of responsibility. Each manager will be governed by individual investment guidelines.

The Board, in recognition of the benefits of commingled funds (i.e., the ability to diversify more extensively than in a small, direct investment account and the lower costs which can be associated with these funds) may elect to invest in such funds on a case-by-case basis. The Board recognizes that it cannot give specific policy directives to a commingled fund with pre-established policies, outlined in each fund's prospectus or offering documents; therefore, the Board is relying on the investment consultant to assess and monitor the investment policies of any funds used by the Fund to ascertain whether they are appropriate for the System. The Board and its Investment Managers, where applicable, will establish a Side Letter Agreement that sets forth that the manager is aware of the Code of Massachusetts Regulations, Investment Regulations, the applicable provisions of the M.G.L., Chapter 32 and that the Manager will comply with the statute and Investment Regulations wherever possible, consistent with the Manager's trust documents, prospectus, implementation documents, etc. creating the commingled fund vehicle.

X. Implementation

All monies invested for the Board by investment managers after the adoption of this investment policy statement shall conform to this statement. To the extent that the Board shall deliver to an investment manager, in cash or kind, or fund assets here to fore invested for them by other investment managers, within 60 days after the delivery of said prior assets by the Board, the entire portfolio managed by the manager shall conform in all aspects to guidelines established to the investment guidelines established for said manager.

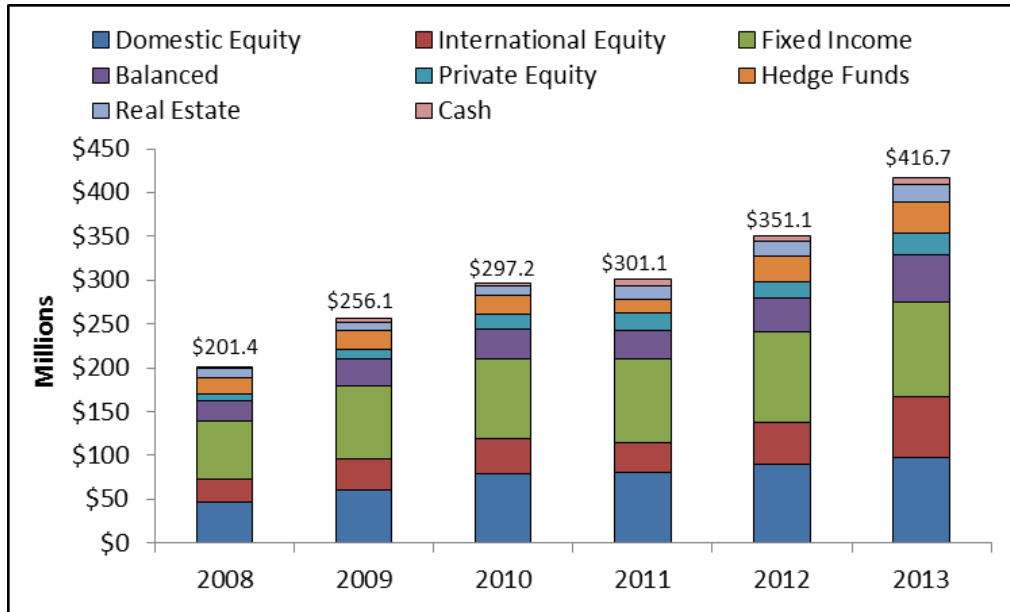
TIME-WEIGHTED INVESTMENT RESULTS¹

	4Q13	1 YR	3 YR	5 YR	10 YR	Since Inception	Inception Date
Total Composite	5.1	16.3	9.7	13.1	7.6	NA	1/1/1986
Allocation Index	4.6	15.2	8.9	10.5	6.3	NA	
Policy Index	4.5	15.0	9.2	11.6	6.8	NA	
Total Balanced	3.5	6.2	4.6	NA	NA	5.6	12/1/2010
60% S&P 500 / 40% Barclays Aggregate	6.2	17.6	11.1	12.7	6.5	5.1	
Total Domestic Equity	9.3	36.4	16.8	19.7	9.0	6.0	5/1/1999
Russell 3000	10.1	33.6	16.2	18.7	7.9	8.4	
Total International Equity	5.2	21.3	4.9	9.8	5.7	5.0	3/1/1999
MSCI EAFE	5.7	22.8	8.2	12.4	6.9	5.4	
Total Fixed Income	2.3	3.9	7.0	11.8	7.2	7.7	3/1/1999
Barclays Aggregate	-0.1	-2.0	3.3	4.4	4.5	5.4	
Total Hedge Fund	4.2	12.2	5.7	7.1	NA	4.0	10/1/2006
HFRI Fund of Funds Composite Index	3.7	9.0	2.5	4.9	3.4	2.1	
Total Real Estate	2.8	12.2	13.0	4.8	6.1	7.0	4/1/1999
NCREIF Property Index 1 Qtr Lag	2.6	11.0	12.7	3.4	8.7	8.2	

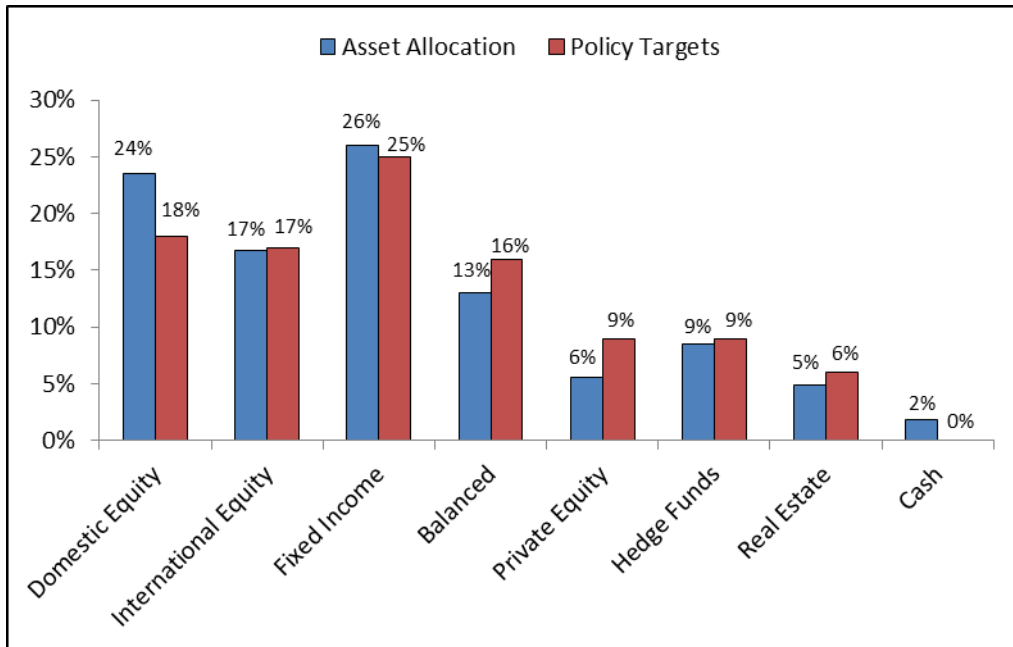
¹ Net of fees

Total Private Equity	6.7	15.4	12.9	15.9	6.7	7.9	4/1/1999
NASDAQ W/O Income	10.7	38.3	16.3	21.5	7.6	3.7	
Cash	0.0	0.0	0.1	NA	NA	0.1	12/1/2010
91 Day T-Bills	0.0	0.0	0.1	0.1	1.6	1.9	

ASSET ALLOCATION - ASSET SIZE

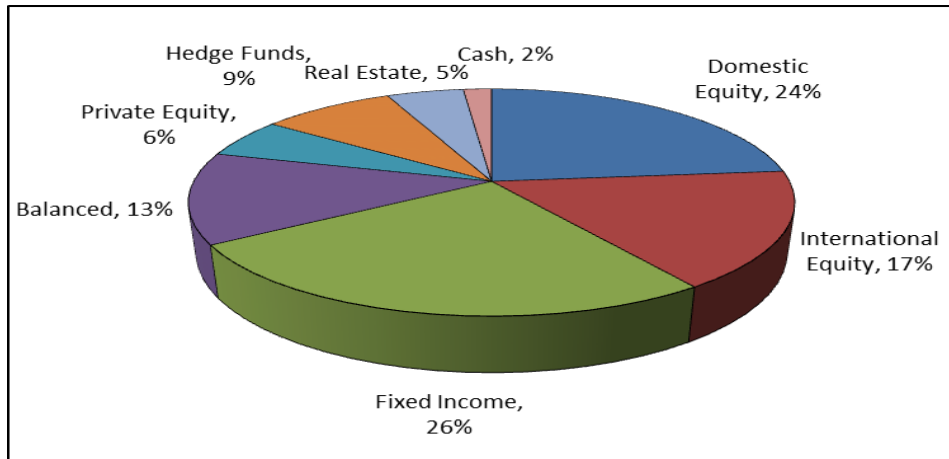


AGGREGATE ASSET ALLOCATION VS. POLICY TARGETS¹

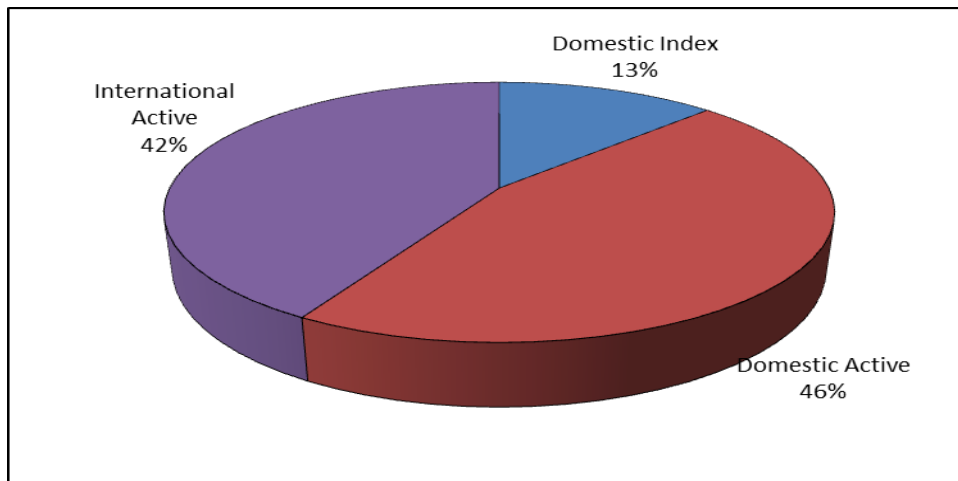


¹ Percentages may not sum to 100% due to rounding.

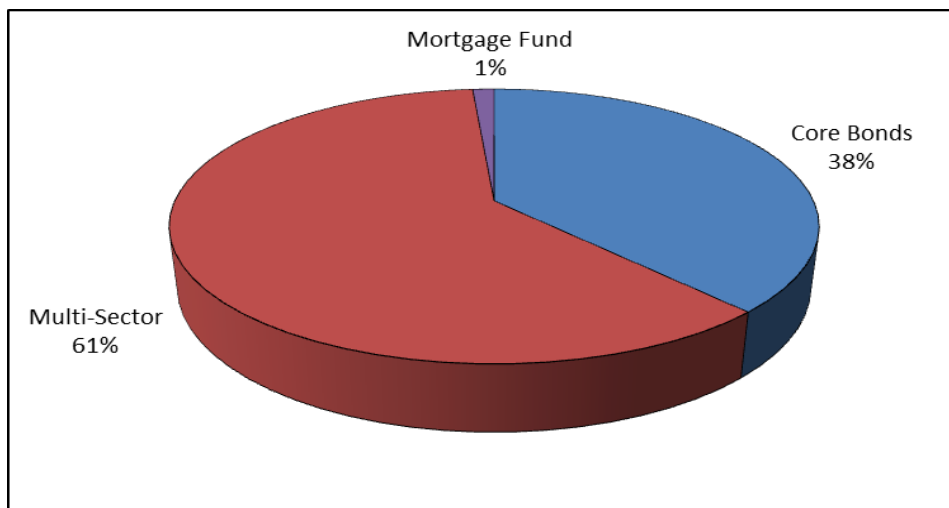
AGGREGATE ASSET ALLOCATION¹



EQUITY ALLOCATION



FIXED INCOME ALLOCATION



¹ Percentages may not sum to 100% due to rounding.

TEN LARGEST STOCK HOLDINGS BY FAIR VALUE

Company	Number of Shares	Fair Value (\$mm)	% of Domestic Stock	Industry
JOHNSON & JOHNSON	16,272	1.5	1.5%	Health Care
PFIZER	40,261	1.2	1.3%	Health Care
EXXON MOBIL	11,645	1.2	1.2%	Financials
JP MORGAN CHASE & CO	19,842	1.2	1.2%	Consumer Staples
WELLS FARGO & CO	20,477	0.9	0.9%	Energy
LOCKHEED MARTIN	5,685	0.8	0.8%	Financials
CHEVRON	6,405	0.8	0.8%	Industrials
GENERAL MILLS	15,973	0.8	0.8%	Energy
IBM	3,540	0.7	0.7%	Information Technology
UNITED TECHNOLOGIES	5,608	0.6	0.7%	Industrials

TEN LARGEST FIXED INCOME HOLDINGS BY FAIR VALUE

Security	Coupon (%)	Maturity Date	Number of Shares	Market Value (\$mm)	% of Bonds
1. US TREASURY NOTE	1.3	11/30/2018	3,290,812	3.2	3.0%
2. US TREASURY NOTE	0.3	11/30/2015	2,742,343	2.7	2.5%
3. FNCL TBA	3.5	01/01/2044	2,056,757	2.0	1.9%
4. FNCL TBA	4.5	01/01/2044	1,645,406	1.7	1.6%
5. FGLMC G06695	5.5	04/01/2041	837,406	0.9	0.8%
6. US TREASURY NOTE	0.5	07/31/2017	822,703	0.8	0.7%
7. FGCI J11561	4.5	01/01/2025	685,487	0.8	0.7%
8. FNCL AI0579	5.0	05/01/2041	629,570	0.7	0.6%
9. FNR 2006-123 BO PO	0.0	01/25/2037	726,455	0.7	0.6%
10. FNCL AL1252	4.0	01/01/2042	632,739	0.6	0.6%

SCHEDULE OF FEES & COMMISSIONS

Investment Manager Fees: December 31, 2013	
ASCENT VENTURE IV	\$89,619
ASCENT VENTURE V	33,315
CASTILE VENTURES	30,000
CERBERUS	44,785
ENTRUST CAPITAL DIVERSIFIED	113,202
FOUNDRY GROUP 2007	44,141
FOUNDRY GROUP 2010	28,417
INTECH/JANUS	118,185
INTERCONTINENTAL REAL ESTATE	13,957
INVESCO CORE BOND	114,788
INVESCO IV	6,618
INVESCO VI	8,125
INVESCO MORTGAGE RECOVERY	22,116
LOOMIS SAYLES & CO	78,656
LOOMIS SAYLES FIXED INCOME	365,324
MESIROW	16,694
MFS	139,309
MORGAN STANLEY	59,513
PRIM CORE REAL ESTATE	51,467
PRIM FUND GENERAL ALLOCATION	13,804
PRIM HEDGE FUND	243,364
PRIM VINTAGE YEAR 2008	31,302
PRIM VINTAGE YEAR 2009	6,027
PRIM VINTAGE YEAR 2010	12,656
PRIM VINTAGE YEAR 2011	19,271
PRIM VINTAGE YEAR 2012	6,678
RHUMBLINE ADVISERS	21,559
ROBECO	159,511
TA REALTY	27,084
THE BOSTON COMPANY	210,331
WELLINGTON OPPORTUNISTIC	204,368
Total Investment Manager Fees	\$ 2,334,186
State Street Bank (Custodian Bank Fee)	136,186
NEPC (Consultant Fee)	103,429
Total Other Fees	\$ 239,615
Total Fees	\$ 2,573,801

2013 COMMISSIONS TO BROKERS

Broker Name	Total Commissions (\$)	Total Shares	\$/Share
AQUA SECURITIES LP	53.30	2,665	0.02
AVONDALE PARTNERS LLC	11.68	301	0.04
BARCLAYS CAPITAL INC/LE	287.31	8,149	0.04
BARCLAYS CAPITAL LE	800.02	36,298	0.02
BNY CONVERGEX LJR	958.96	25,073	0.04
CANTOR FITZGERALD + CO.	141.09	3,714	0.04
CAP GUARDIAN BROKER	1.50	50	0.03
CITATION GROUP	1,524.15	56,487	0.03
CITIGROUP GLOBAL MARKETS INC	666.79	27,225	0.02
COWEN AND COMPANY, LLC	472.86	14,931	0.03
CPR PARIS	4.06	104	0.04
CREDIT AGRICOLE SECURITIES (USA) INC	2.34	60	0.04
CREDIT SUISSE SECURITIES (USA) LLC	2,691.59	123,622	0.02
CUTTONE & CO.	144.20	14,420	0.01
CUTTONE + CO INC	0.10	10	0.01
DEUTSCHE BANK AG NEW YORK	845.60	108,544	0.01
DEUTSCHE BANK SECURITIES INC	638.20	21,187	0.03
DREXEL HAMILTON LLC	6.20	310	0.02
FRIEDMAN BILLINGS + RAMSEY	1.17	30	0.04
GOLDMAN SACHS + CO	1,932.15	61,721	0.03
GOLDMAN SACHS EXE + CLR LP PB CNS	3.00	100	0.03
GOLDMAN SACHS INTERNATIONAL	698.06	37,491	0.02
INVESTMENT TECHNOLOGY GROUP INC	847.06	40,830	0.02
ISI GROUP INC	83.48	2,087	0.04
ITG INC	125.50	46,649	0.00

2013 COMMISSIONS TO BROKERS (CONTINUED)

Broker Name	Total Commissions (\$)	Total Shares	\$/Share
J.P. MORGAN CLEARING CORP.	1,370.40	48,304	0.03
J.P. MORGAN SECURITIES INC	2,065.69	190,235	0.01
JANNEY MONTGOMERY, SCOTT INC	12.87	330	0.04
JEFFERIES + COMPANY INC	776.49	23,492	0.03
JONES TRADING INSTITUTIONAL SERVICES LLC	216.00	5,400	0.04
KEEFE BRUYETTE + WOODS INC	23.76	705	0.03
LAZARD CAPITAL MARKETS LLC	278.11	6,985	0.04
LEERINK SWANN AND COMPANY	21.48	1,076	0.02
LIQUIDNET INC	553.35	22,242	0.02
MACQUARIE CAPITAL (USA) INC	14.04	360	0.04
MACQUARIE SECURITIES (USA) INC	6.96	174	0.04
MCDONALD CO., SECURITIES, INC.	27.80	695	0.04
MERRILL LYNCH PIERCE FENNER + SMITH INC	1,112.30	74,665	0.01
MERRILL LYNCH PROFESSIONAL CLEARING CORP	9.40	470	0.02
MIZUHO SECURITIES USA INC	0.78	20	0.04
ML PROFESSIONAL CLEARING CORP	14.70	490	0.03
MORGAN STANLEY CO INC	731.75	31,539	0.02
NATIONAL FINANCIAL SERVICES CORP	465.68	11,687	0.04
NEEDHAM + COMPANY	489.04	12,226	0.04
OPPENHEIMER + CO. INC.	491.72	12,293	0.04
PACIFIC CREST SECURITIES	28.76	741	0.04
PIPER JAFFRAY	1,919.48	52,913	0.04
PULSE TRADING LLC	455.20	27,821	0.02

2013 COMMISSIONS TO BROKERS (CONTINUED)

Broker Name	Total Commissions (\$)	Total Shares	\$/Share
RAYMOND JAMES AND ASSOCIATES INC	1,538.22	42,048	0.04
RBC CAPITAL MARKETS	636.78	26,601	0.02
ROBERT W. BAIRD CO. INCORPORATE	814.99	20,456	0.04
SANFORD C BERNSTEIN CO LLC	42.71	2,235	0.02
SJ LEVINSON & SONS LLC	422.17	33,177	0.01
STATE STREET GLOBAL MARKETS	70.25	2,328	0.03
STATE STREET GLOBAL MARKETS, LLC	10.20	340	0.03
STEPHENS, INC.	605.16	15,129	0.04
STERNE AGEE & LEACH INC	139.60	3,490	0.04
STIFEL NICOLAUS + CO INC	1,219.50	34,628	0.04
SUNTRUST CAPITAL MARKETS, INC.	15.04	376	0.04
UBS SECURITIES LLC	598.40	22,855	0.03
WEEDEN + CO	28.93	725	0.04
WELLS FARGO SECURITIES, LLC	29.25	750	0.04
WILLIAM BLAIR & COMPANY LLC	1,601.44	45,859	0.03
TOTAL	31,798.77	1,407,918	0.03

INVESTMENT SUMMARY¹

	Market Value 12/31/2013 (\$ mm)	% of Asset Class	% of System
Total System	416.7	NA	100%
Total Domestic Equity Assets	97.7²	100%	23%
Financials	17.6	18%	4%
Information Technology	15.2	16%	4%
Industrials	16.7	17%	4%
Consumer Discretionary	16.2	17%	4%
Energy	6.1	6%	1%
Health Care	13.0	13%	3%
Consumer Staples	6.7	7%	2%
Materials	3.6	4%	1%
Utilities	1.0	1%	0%
Telecommunication Services	1.5	2%	1%
Total Foreign Equity Assets	69.7	100%	17%
Europe-Developed	28.8	42%	7%
Pacific Rim/Australia Asia-Developed	15.3	22%	4%
Emerging Markets	19.8	28%	5%
Other (Non-EAFE)	5.8	8%	1%
Total Fixed Income Assets	108.1	100%	26%
U.S. Treasury/Agency	28.2	26%	7%
Corporate	47.9	44%	12%
Mortgage Backed	16.4	15%	4%
Foreign	10.6	10%	3%
Muni	0.7	1%	0%
Asset Backed	4.2	4%	1%
Other	0.3	0%	0%
Total Alternative Assets	133.7	100%	32%
Balanced	54.1	41%	13%
Real Estate	20.6	15%	5%
Alternative Assets	23.6	17%	6%
Hedge Funds	35.4	27%	8%
Cash & Cash Equivalents	7.4	100%	2%

¹ Numbers may not sum to 100% due to rounding. PRIT assets are broken out amongst various asset categories including balanced, real estate, alternative assets and hedge funds. This may differ from other parts of the report, where they may be presented as a standalone asset (external investment pool).

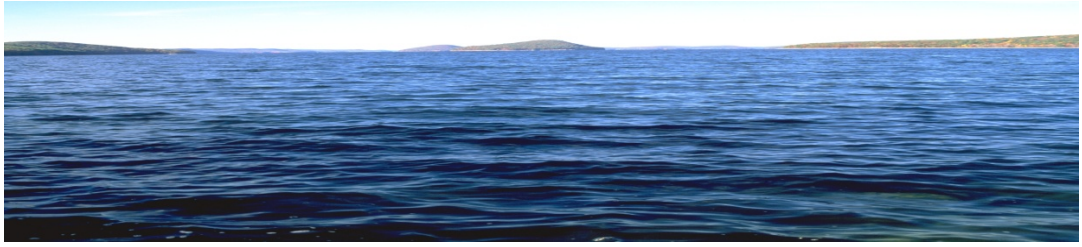
² Domestic equity assets include \$1.4 million in cash held by the systems separate account investments. This cash value fluctuates daily, and represents the residual activity from security transactions within the portfolio.

LIQUIDITY PROFILE

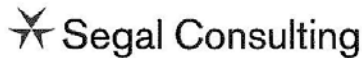
Benefits payments totaled approximately \$11.8 million during the year and along with other payments of \$1.1 million resulted in total cash outflows of \$12.9 million in 2013. These payments were partially offset by a contribution of approximately \$12.4 million from the employer and other cash receipts of \$9.0 million for a total of \$21.4 million in 2013. This resulted in a positive cash flow of approximately \$8.5 million for the fiscal year. Note that these figures do not incorporate expected income and asset gains from the System's investments. The System's portfolio is structured with a long-term expected return of 8.00%.



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Actuarial Section



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Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Actuary
kriley@segalco.com

June 24, 2014

Massachusetts Water Resources Authority Employees' Retirement Board
MWRA Chelsea Facility
Two Griffin Way
Chelsea, MA 02150

Dear Board Members:

Segal Consulting has performed a January 1, 2013 actuarial valuation of the Massachusetts Water Resources Authority Employees' Retirement System. The January 1, 2013 actuarial valuation was the first valuation prepared for the Massachusetts Water Resources Authority Employees' Retirement System by Segal Consulting. This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Retirement Board are reasonably related to the experience of and the expectations for the Plan.

As part of performing the valuation, Segal Consulting was furnished member data by the Massachusetts Water Resources Authority Employees' Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary.

The funding objective of the plan is to provide for the current cost of benefits (*i.e.*, normal cost) and to reduce the unfunded liability to zero by June 30, 2024. The normal cost is expected to remain at a level percentage of payroll. The unfunded liability is amortized over an 11-year period with payments increasing 4.5% per year.

Biennial valuations are consistent with the guidelines promulgated by PERAC and GASB. The previous valuation was performed as of January 1, 2011. The assumptions and methods used for funding purposes met the parameters set for the disclosures presented in the financial section by GASB Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*.

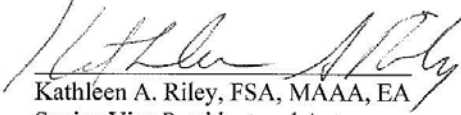
The assumptions and methods used for funding purposes met the parameters set for the disclosures presented in the financial section by GASB Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*. Segal Consulting has prepared, and included as part of this report, all the supporting schedules for the Actuarial Section and Statistical Section of the CAFR. In addition, we have prepared the Schedules of Funding Progress and the Schedule of Employer Contributions found in the Financial Section of the CAFR.

Benefits, Compensation and HR Consulting. Member of The Segal Group. Offices throughout the United States and Canada

Please let us know if you have any questions on this material.

Sincerely,

THE SEGAL COMPANY

By: 
Kathleen A. Riley, FSA, MAAA, EA
Senior Vice President and Actuary

KCR/jpb

8005778V4/13922.002

I. Summary of Actuarial Assumptions and Actuarial Cost Method

The actuarial assumptions, as set forth in the accompanying supporting schedules, were selected by the Massachusetts Water Resources Authority Employees' Retirement Board and actuary. Unless stated otherwise, the actuarial assumptions are based upon the actuarial valuation as of January 1, 2013, which was adopted by the Massachusetts Water Resources Authority Employees' Retirement System on July 24, 2013.

Mortality Rates

Healthy: RP-2000 Mortality Table projected 13 years using Scale AA (previously, RP-2000 Mortality Table)

Disabled: RP-2000 Mortality Table projected 13 years using Scale AA, set forward 2 years (previously, RP-2000 Mortality Table, set forward 2 years)

The RP-2000 Mortality Table projected 13 years using Scale AA was determined to contain provisions appropriate to reasonably reflect future mortality improvement, based on a review of mortality experience as of the measurement date.

Termination Rates before Retirement

Age	Rate (%)		
	Mortality		
	Male	Female	Disability
20	0.03	0.02	0.01
25	0.03	0.02	0.02
30	0.04	0.02	0.03
35	0.07	0.04	0.05
40	0.10	0.06	0.10
45	0.13	0.09	0.15
50	0.17	0.13	0.19
55	0.28	0.24	0.24
60	0.55	0.47	0.28

*Notes: 55% of the disability rates shown represent accidental disability.
40% of the accidental disabilities will die from the same cause as the disability.
55% of the death rates shown represent accidental death.*

Withdrawal Rates

Rate (%)	
Years of Service	Withdrawal
0	15.0
1	12.0
2	10.0
3	9.0
4	8.0
5	7.6
6	7.5
7	6.7
8	6.3
9	5.9
10	5.4
11	5.0
12	4.6
13	4.1
14	3.7
15	3.3
16 – 20	2.0
21 – 29	2.0
30+	0.0

Retirement Rates

Rate (%)			
Age	Male	Age	Female
50 - 51	1.0	50 - 51	1.5
52	1.0	52	2.0
53	1.0	53	2.5
54	2.0	54	2.5
55	2.0	55	5.5
56	2.5	56	6.5
57	2.5	57	6.5
58	5.0	58	6.5

Rate (%)			
Age	Male	Age	Female
59	6.5	59	6.5
60	12.0	60	5.0
61	20.0	61	13.0
62	30.0	62	15.0
63	25.0	63	12.5
64	22.0	64	18.0
65	40.0	65	15.0
66 - 67	25.0	66 - 67	20.0
68	30.0	68	25.0
69	30.0	69	20.0
70	100.0	70	100.0

Retirement Age for Inactive Vested Participants

Age 55

Unknown Data for Participants

Same as those exhibited by participants with similar known characteristics.

Age of Spouse

Females three years younger than their spouses.

Percent Married

80%

Benefit Election

All participants are assumed to elect Option A.

Net Investment Return

8.00%

Salary Increases

Years of Service	Rate
0	7.00%
1	6.50%
2	6.50%
3	6.00%
4	5.50%
5	5.50%
6	5.50%
7	5.00%
8	5.00%
9+	4.75%

Interest on Employee Contributions

3.50%

Administrative Expenses

\$390,000 for calendar 2013, increasing 4.50% per year (Previously, administrative expenses were subtracted from investment income).

2012 Salary

2012 salary equal to salaries provided in the data, except for new hires where salaries were annualized based on date of hire.

Total Service

Total creditable service reported in the data.

Net 3(8)(c) Liability

Estimated reduction in liability of \$5.2 million based on average amount of net 3(8)(c) disbursements over prior two years.

Actuarial Value of Assets

Market value of assets as reported in the System's Annual Statement less unrecognized return in each of the last five years. Unrecognized return is equal to the difference between the actual market value return and the expected market value return and is recognized over a five-year period, further adjusted, if necessary, to be within 10% of the market value.

Actuarial Cost Method

Entry Age Normal Actuarial Cost Method. Entry Age is the age of the participant less Total Service as defined above. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary. Normal cost is determined using the plan of benefits applicable to each participant.

Recent Changes

The mortality assumption for healthy participants was changed from the RP-2000 Mortality Table to the RP-2000 Mortality Table projected 13 years using Scale AA as of January 1, 2013.

The mortality assumption for disabled participants was changed from the RP-2000 Mortality Table set forward 2 years to the RP-2000 Mortality Table projected 13 years using Scale AA with a 2-year set forward as of January 1, 2013.

As of January 1, 2013, an estimated reduction in liability for future net 3(8)(c) disbursements of \$5.2 million was reflected based on the average amount of net 3(8)(c) disbursements over prior two years.

An administrative expense assumption of \$390,000 was included as of January 1, 2013.

A liability for inactive vested participants equal to the greater of the employee's annuity savings fund or the present value of a deferred annuity was included as of January 1, 2013.

Note that the following tables include only one-year of data since the January 1, 2013 actuarial valuation was the first performed by Segal Consulting.

II. Schedule of Active Member Valuation Data

Valuation date	Number	Projected annual payroll (\$)	Annual average pay (\$)	% Increase in average pay
1/1/2013	1,091	84,829,033	77,753	2.05

III. Schedule of Retirants and Beneficiaries Added to and Removed from Rolls

Year ended	Added to Rolls		Removed from Rolls		Rolls at end of year		% Increase in annual allowances	Average annual allowances
	Number	Annual Allowances ¹	Number	Annual Allowances	Number	Annual Allowances ¹		
2012	61	\$2,380,699	5	\$61,467	397	\$11,069,722	30.6	\$27,833

¹ Annual allowances are shown for retirees in pay status at the end of the year.

IV. Solvency Test

Valuation Date	Actuarial Accrued Liability			Actuarial value of assets	Portion of Actuarial Accrued Liability Covered by Assets		
	(1) Active/Inactive member contributions	(2) Retirees and beneficiaries	(3) Active/Inactive members (Employer financed)		(1)	(2)	(3)
01/01/2013	\$108,978,697	\$106,973,144	\$169,344,232	\$341,515,023	100	100	74

V. Analysis of Financial Experience

	December 31, 2012
1. Unfunded actuarial accrued liability as of January 1	\$41,197,213
2. Normal cost as of January 1	9,053,856
3. Employer and employee contributions during year	(20,294,057)
4. Interest	
(a) For whole year on (1) + (2)	4,020,085
(b) For half year on (3)	<u>(733,777)</u>
(c) Total interest	\$3,286,308
5. Expected unfunded actuarial accrued liability	33,243,320
6. Actual unfunded actuarial accrued liability	<u>43,781,050</u>
7. (Gain) or loss for the year: (6) – (5)	<u>\$10,537,730</u>
8. Investment (gain) or loss	\$10,117,513
9. (Gains) or losses from sources other than investments	(10,965,560)
10. Plan changes	--
11. Assumption changes	11,385,777

VI. Summary of Plan Provisions

The following summarizes the major provisions of Chapter 32 of the Massachusetts General Laws.

Plan Year

January 1 – December 31

Retirement Benefits

Employees covered by the Contributory Retirement Law are classified into one of four groups depending on job classification. Group 1 comprises most positions in state and local government. It is the general category of public employees. Group 4 comprises mainly police and firefighters. Group 2 is for other specified hazardous occupations. (Officers and inspectors of the State Police are classified as Group 3.)

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following table based on the age of the member at retirement:

Age Last Birthday at Date of Retirement			
Percent	Group 1	Group 2	Group 4
2.5	65 or over	60 or over	55 or over
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	--	49
1.8	58	--	48
1.7	57	--	47
1.6	56	--	46
1.5	55	--	45

A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on April 2, 2012 or later, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following tables based on the age and years of creditable service of the member at retirement:

For members with less than 30 years of creditable service:

Age Last Birthday at Date of Retirement

Percent	Group 1	Group 2	Group 4
2.50	67 or over	62 or over	57 or over
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

For members with 30 years of creditable service or greater:

Age Last Birthday at Date of Retirement

Percent	Group 1	Group 2	Group 4
2.500	67 or over	62 or over	57 or over
2.375	66	61	56
2.250	65	60	55
2.125	64	59	54
2.000	63	58	53
1.875	62	57	52
1.750	61	56	51
1.625	60	55	50

A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

For employees who became members after January 1, 2011, regular compensation is limited to 64% of the federal limit found in 26 U.S.C. 401(a)(17). In addition, regular compensation for members who retire after April 2, 2012 will be limited to prohibit "spiking" of a member's salary to increase the retirement benefit.

For all employees, the maximum annual amount of the retirement allowance is 80 percent of the member's final three-year average salary. Any member who is a veteran also receives an additional yearly retirement allowance of \$15 per year of creditable service, not exceeding \$300. The veteran allowance is paid in addition to the 80 percent maximum.

Employee Contributions

Employees hired before January 1, 1975 contribute 5 percent of their salary; employees hired after January 1, 1975 and before December 31, 1983 contribute 7 percent; employees hired after January 1, 1984 contribute 8 percent; employees hired after July 1, 1996 contribute 9 percent.

In addition, employees hired after December 31, 1978 contribute an additional 2 percent of salary in excess of \$30,000.

Employees hired after 1983 who leave with less than five years of credited service receive no interest on their contributions, and employees who leave with five but less than ten years receive one-half the rate of regular interest otherwise payable. Commencing July 1, 2010, employees who voluntarily terminate employment, who have less than 10 years of service and request a refund, receive 3% interest on their contributions.

Employees in Group 1 hired on or after April 2, 2012 with 30 years of creditable service or greater will pay a base contribution rate of 6%.

Retirement Benefits (Superannuation)

Members of Group 1, 2 or 4 hired prior to April 2, 2012 may retire upon the attainment of age 55. For retirement at ages below 55, twenty years of creditable service is required.

Members hired prior to April 2, 2012 who terminate before age 55 with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System).

Members of Group 1 hired April 2, 2012 or later may retire upon the attainment of age 60. Members of Group 2 or 4 hired April 2, 2012 or later may retire upon the attainment of age 55. Members of Group 4 may retire upon attainment of age 50 with ten years of creditable service.

Members hired April 2, 2012 or later who terminate before age 55 (60 for members of Group 1) with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (60 for members of Group 1) provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System.

Ordinary Disability Benefits

A member who is unable to perform his job due to a non-occupational disability will receive a retirement allowance if he has ten or more years of creditable service and has not reached age 55. The annual amount of such allowance shall be determined as if the member retired for superannuation at age 55 (age 60 for Group 1 members hired on or after April 2, 2012), based on the amount of creditable service at the date of disability. For veterans, there is a minimum benefit of 50 percent of the member's most recent year's pay plus an annuity based on his or her own contributions.

Accidental Disability Benefit

For a job-connected disability the benefit is 72 percent of the member's most recent annual pay plus an annuity based on his own contributions, plus additional amounts for surviving children. Benefits are capped at 75 percent of annual rate of regular compensation for employees who become members after January 1, 1988.

Death Benefits

In general, the beneficiary of an employee who dies in active service will receive a refund of the employee's own contributions. Alternatively, if the employee were eligible to retire on the date of his or her death, a spouse's benefit will be paid equal to the amount the employee would have received under Option C. The surviving spouse of a member who dies with two or more years of credited service has the option of a refund of the employee's contributions or a monthly benefit regardless of eligibility to retire, if they were married for at least one year. The allowance provided for under this option shall not be less than \$250 per month, and there are additional amounts for surviving children.

If an employee's death is job-connected, the spouse will receive 72 percent of the member's most recent annual pay in addition to a refund of the member's accumulated deductions, plus additional amounts for surviving children. However, in accordance with Section 100 of Chapter 32, the surviving spouse of a police officer, firefighter or corrections officer is killed in the line of duty will be eligible to receive an annual benefit equal to the maximum salary held by the member at the time of death, and will be eligible for pay increases that would have been awarded to the officer if they were still living.

"Heart and Lung Law" and Cancer Presumption

Any case of hypertension or heart disease resulting in total or partial disability or death to a uniformed fireman or permanent member of a police department, or certain employees of a county correctional facility is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. Any case of disease of the lungs or respiratory tract resulting in total disability or death to a uniformed fireman is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. There is an additional presumption for uniformed firemen that certain types of cancer are job-related if onset occurs while actively employed or within five years of retirement.

Options

Members may elect to receive a full retirement allowance payable for life under Option A. Under Option B a member may elect to receive a lower monthly allowance in exchange for a guarantee that at the time of death contributions not expended for annuity payments will be refunded to his beneficiary. Option C allows the member to take a lesser retirement allowance in exchange for providing a survivor with two-thirds of the lesser amount. Option C pensioners will have their benefits converted from a reduced to a full retirement if the beneficiary predeceases the retiree.

Post-Retirement Benefits

The Board has adopted the provisions of Section 51 Chapter 127 of the Acts of 1999, which provide that the Retirement Board may approve an annual COLA in excess of the Consumer Price Index but not to exceed a 3% COLA on the first \$12,000 of a retirement allowance. Cost-of-living increases granted prior to July 1, 1998 are reimbursed by the Commonwealth and are not reflected in this report.

Changes in Plan Provisions

Members hired on or after April 2, 2012 are covered by the provisions of Chapter 32 as amended by Chapter 176 of the Acts of 2011 and Chapter 139 of the Acts of 2012.



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Statistical Section

Statistical Section

This part of the Massachusetts Water Resources Authority Employees' Retirement System's Comprehensive Annual Financial Report presents information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the Massachusetts Water Resources Authority Employees' Retirement System's overall financial health

	Page
Financial Trends	67-68
These schedules contain trend information to help the reader understand how the Massachusetts Water Resources Employees' Retirement System's financial performance and well-being have changed over time.	
Schedule of Retired Members by Type of Benefit	69
This schedule presents trend data about retired members by type of benefit.	
Schedule of Average Benefit Payments	69
These schedules present trend data about average benefit payments.	

Schedule of Additions to Plan Net Position by Source (a)

<u>Year</u>	<u>Plan Member Contributions</u>	<u>Employer Contributions</u>	<u>Investment Income (b)</u>	<u>Other (c)</u>	<u>Total</u>
2004	\$ 6,346,205	4,241,375	17,261,206	626,614	28,475,400
2005	6,896,022	3,492,766	13,932,653	802,306	25,123,748
2006	6,976,257	3,881,015	25,725,963	833,746	37,416,982
2007	7,074,840	4,223,291	17,618,238	700,563	29,616,932
2008	7,459,620	15,203,860	(59,887,525)	771,165	(36,452,880)
2009	7,523,693	5,471,172	46,018,069	761,026	59,773,961
2010	7,505,077	8,150,055	34,708,095	806,485	51,169,712
2011	7,544,647	5,511,524	2,314,175	935,138	16,305,484
2012	7,855,760	12,341,893	38,698,894	938,285	59,834,832
2013	7,948,445	12,447,338	56,951,114	1,018,293	78,365,190

(a) Information derived from audited financial statements (2012 - 2013) and unaudited Annual Statement of Financial Condition filed with PERAC (2004 - 2011)

(b) Net of investment expenses

(c) Includes reimbursements and transfers of employees' contributions from other public pension systems

Schedule of Deductions from Plan Net Position by Type (a)

Benefits and Refunds

<u>Year</u>	<u>Benefits</u>	<u>Refunds</u>	<u>Sub-total</u>	<u>Administrative Expenses</u>	<u>Reimbursements and Transfers to Other Systems</u>	<u>Total</u>
2004	\$ 5,066,236	840,837	5,907,073	288,602	48,126	6,243,800
2005	5,448,171	520,733	5,968,904	418,971	295,104	6,682,979
2006	5,955,794	629,432	6,585,227	412,478	538,951	7,536,656
2007	6,196,900	546,008	6,742,908	420,129	665,486	7,828,523
2008	6,537,868	703,883	7,241,751	432,485	471,861	8,146,097
2009	7,199,926	422,103	7,622,029	353,982	213,267	8,189,277
2010	8,115,183	315,600	8,430,784	386,282	202,076	9,019,142
2011	9,163,784	408,826	9,572,610	347,356	209,900	10,129,866
2012	10,279,649	223,082	10,502,731	383,802	244,310	11,130,843
2013	11,773,192	72,299	11,845,491	410,778	622,410	12,878,679

(a) Information derived from audited financial statements (2012 - 2013) and unaudited Annual Statement of Financial Condition filed with PERAC (2004 - 2011)

Schedule of Total Change in Net Position (a)

<u>Year</u>	<u>Total Change in Net Position</u>
2004	\$ 22,231,600
2005	18,440,769
2006	29,880,325
2007	21,788,409
2008	(44,598,977)
2009	51,584,683
2010	42,150,570
2011	6,175,618
2012	48,703,989
2013	65,486,511

(a) Information derived from audited financial statements (2012 - 2013) and unaudited Annual Statement of Financial Condition filed with PERAC (2004 - 2011)

Schedule of Benefit Expenses by Type

<u>Year ended December 31</u>	<u>Regular* (\$)</u>	<u>Disability* (\$)</u>	<u>Beneficiary* (\$)</u>	<u>Annuities (\$)</u>	<u>Total (\$)</u>
2004	3,117,456	680,552	97,359	1,170,868	5,066,235
2005	3,534,183	719,651	94,644	1,099,693	5,448,171
2006	3,775,891	760,919	133,623	1,285,361	5,955,794
2007	3,766,606	925,315	193,754	1,311,225	6,196,900
2008	3,811,499	1,105,087	257,551	1,363,731	6,537,868
2009	4,041,747	1,280,429	357,412	1,520,338	7,199,926
2010	4,507,903	1,398,180	453,569	1,755,531	8,115,183
2011	4,971,773	1,613,513	600,961	1,977,537	9,163,784
2012	5,626,480	1,709,728	637,994	2,305,447	10,279,649
2013	6,681,557	1,768,654	685,929	2,637,052	11,773,192

*COLA included in pension benefits

Schedule of Retired Members by Type of Benefit (a)

	12/31/2013	12/31/2012	12/31/2011	12/31/2010	12/31/2009	12/31/2008	12/31/2007	12/31/2006	12/31/2005	12/31/2004
Superannuation	322	291	265	253	229	218	216	218	210	214
Ordinary Disability	13	13	12	13	11	10	9	8	8	9
Accidental Disability	44	43	44	42	40	34	26	23	20	20
Beneficiaries	52	49	43	35	31	26	21	18	14	13
Total Retired Members	431	396	364	343	311	288	272	267	252	256

(a) Source: MWRAERS Staff

Schedule of Average Benefit Payments

<u>Year ended December 31</u>	<u>Number</u>	<u>Annual Benefits (\$)</u>	<u>Monthly Average (\$)</u>	<u>Annual Average (\$)</u>	<u>% Increase</u>
2004	256	5,066,235	1,649	19,790	N/A
2005	252	5,448,171	1,802	21,620	9.25%
2006	267	5,955,794	1,859	22,306	3.18%
2007	272	6,196,900	1,899	22,783	2.14%
2008	288	6,537,868	1,892	22,701	-0.36%
2009	311	7,199,926	1,929	23,151	1.98%
2010	343	8,115,183	1,972	23,659	2.20%
2011	364	9,163,784	2,098	25,175	6.41%
2012	396	10,279,649	2,163	25,959	3.11%
2013	431	11,773,192	2,276	27,316	5.23%

(a) The table provides for the most comprehensive average benefit payment data available.