

# Journal

of The New England Water Works Association



Our 125th Year

Volume 120 No.3 September 2006



*A History of New England Water Supplies*



125<sup>th</sup> Anniversary

New England  
Water Works Association

American Water Works Association

Defining Our Future Legacy

## **New England Water Supplies – A Brief History**

**385 years of drinking water, 125 years of New England Water Works Association**

Abstract:

This paper reviews the historical development of New England water supplies in the following areas:

- Water supply from the settlement of New England through to the 1882 formation of NEWWA
- Development of water sources through the years
- Public health issues and the evolution of water quality regulations and water treatment
- The growth of distribution systems and their components
- Disasters, wars and emergency planning
- Water system management issues over the years
- A look at the early NEWWA and the growth of the organization
- Thoughts for the future

Submitted for publication - September 2006 Journal

Author:

Marcis Kempe

Massachusetts Water Resources Authority  
Charlestown Navy Yard, 100 First Avenue  
Boston, MA 02129

<http://www.mwra.com>

Cover illustration by Martha J. Kempe

Posted on mwra.com 06/2012

**"Our one great object is mutual improvement."  
NEWWA's first President, James W. Lyon**

## **Introduction**

In 1882, some motivated water supply managers felt that a forum was necessary to exchange ideas and experience. They went on to form New England Water Works Association. This is the story of a group of far-sighted men who made a difference for their generation and all of those that followed. The young but influential organization attracted many brilliant men from different areas of expertise and different parts of the country. The result was advancement of water supply and public health understanding, all with national consequences. New England was truly a leader in developing the science and engineering that saved lives, kept the vital New England cities safe from water shortages and provided reliable service.

My purpose in this history is not just to tell the story of the NEWWA organization and its most famous members. Their story has been told and retold at several points during the organization's life, most notably at the 20<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 100<sup>th</sup> anniversaries. At each of these points, important men who had been present at key moments in NEWWA's history would provide excellent histories of the earliest meetings and the wondrous achievements of a young organization. I highly recommend rereading these journals as they have many insights into the life and times of our predecessors. And yet, while I don't want to diminish the importance of this heritage, there is much more to say. There are literally hundreds of water systems in New England, each with a story to tell for their experience in the past 125 years. There are also many common themes to this collective experience from which a big picture can be drawn.

This paper is meant to discuss the development of New England's water supplies themselves as documented through sources like the NEWWA journal. In the past 125 years, many far-reaching changes have occurred in everyday life: new technologies; major social, economic and environmental changes; different attitudes and expectations from the public, etc. As is seen throughout history, events are driven by underlying causes and water supply evolution is no exception.

It was more than a happy accident that NEWWA formed 125 years ago. It was a necessity that public health issues be resolved and that New England's growing cities get proper water works to continue to fuel their prosperity. In the first few years after formation of NEWWA, the number of water supply systems doubled. Consider the pressure on this new generation of water supply managers to step up and do the job properly with no formal schooling in water supply. Consider the huge investment made in these works and the consequences of failure of high risk facilities like dams and steam pump stations.

My goal has been to set down what I have learned from reviewing our history. While the performance of New England's water suppliers was notably progressive and successful, not every decision made by NEWWA's members was a stroke of genius. Like everyone else, water supply professionals learn by using their best judgment and then learning from their often unavoidable mistakes. In 1882, much of the science and technology that we take for granted today was not adequately understood. The public health community was in the middle of an

epiphany in understanding the role of bacteria in epidemics. Water treatment was primitive and water quality was worsening from pollution. The engineering and materials needed to collect, transport and distribute the water were also primitive. Throughout water supply history, funding has so often been the biggest factor in decision making and a constraint to necessary expansion/rehabilitation work. Many decisions to be made had trade-offs or hidden consequences which continues to be the fate of all water suppliers through to the present day. The lesson learned from this review is that by establishing a forum for sharing of experience among the operators, engineers, vendors and academics of NEWWA, the optimal improvement of water supply practices was assured and the public that we all serve was protected in the best way possible.

In the interests of consolidating the various facts, I have tried to identify where certain technological “firsts” took place as best I could determine. My apologies if I have not given your community proper credit.