

*A Foundation for Sustainable Practices in the Water Utility Profession
(as outlined by the NEWWA Ad Hoc Sustainability Committee)
September 2009*

Introduction

At the 2008 New England Water Works Association (NEWWA) Planning Session, it was determined that a paradigm shift was needed in the relationship between water suppliers and various related special interest groups such as watershed and river basin advocacy organizations, others within the environmental community, regulators, policy makers, and in some cases customers. This shift would improve communications between water suppliers and stakeholders in future discussions concerning the sustainability of water resources and our stewardship of those resources.

It was, and remains, clear that while water suppliers have for years been at the vanguard of efforts to sustain our sources of supply, we have often received little or no recognition for our environmentally-based focus. In fact, as an industry, we understand and appreciate the need to implement sustainable practices better than most. Where we have been less effective is in promoting our good works, i.e., consistently delivering a common message about our continuing efforts as stewards of our watersheds and wellheads, and our future goals of managing our systems' demand and the development of operational practices that support and balance the three pillars (environment, economy, and society) of sustainable development.

While the water industry has historically, if sometimes quietly, been at the forefront of water resource sustainability issues, the coming decades will present new challenges such as climate change, stream flow regulations, population growth, watershed development, and increasing energy costs. The environmental and societal pressures resulting from these changes will require water utilities to continually seek out and implement new and more efficient approaches to water supply planning and system operation. Being widely recognized among environmental advocates, regulators, water consumers, and the general public as principal innovators in environmental sustainability will enhance our reputation, build trust, and allow the water industry to work in partnership with these entities to better achieve our sustainability goals.

To that end, an Ad-Hoc Sustainability Committee was formed and charged with developing the "message", working with State Water Associations to develop consensus on the message and the goals of the Committee, and fostering and promoting sustainability concepts and practices within all aspects of the water utility industry. The Committee will provide utilities with a toolbox of "best practices" in each of three broad areas: water supply/source management, operational practices, and demand management. Lastly the Committee will convene a Regional Water Congress with members of the water-related interest groups to promote an open dialogue about our respective missions and common goals.

In a 1987 report entitled *Our Common Future*, sustainability was defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” The water industry is clearly motivated to meet this challenge and lead efforts to ensure our practices are environmentally sound, and that the integrity of our water resources is maintained in a sustainable manner.

The following mission statement (message) has been prepared by the committee and should guide us in our discussions with other groups as we detail, “who we are, what we do, and why we do it.”

Water is a renewable, but limited resource essential to the survival of all living things. The mission of the water supply profession is to provide a reliable supply of high quality water for the protection of public health, safety, and welfare; and to ensure a sustainable balance between human and ecological water needs. Environmental stewardship and integrated water resource management, including land conservation, wetlands protection, and protecting the ecological integrity of water resources are core values of the water supply profession and are essential to sustaining this mission.

Sustainability Concepts in the Water Supply Industry

Sustainability practices can be applied in several distinct areas within a water utility. For ease of discussion, three broad categories allow logical groupings of these practices. The first category includes water supply sources and the management of our source water. Beyond the efforts to maintain adequate source water quantity and quality, sustainable practices in the production and distribution of water are an essential component of the water profession. Thus, systems operations and infrastructure management are a separate component. Finally, the end use of water is included in the topic of demand management. Each of these categories is discussed briefly below

Water Supply/Source Management

Managing sources of supply includes a variety of protection and management measures. Although it seems like common sense, the better the management efforts within a water supply’s watershed, the more reliable the water quality and quantity will be. Implicit in the decision to maximize the protection of our source waters is the subsequent benefit of providing an initial barrier in a multiple barrier approach. In addition to maintaining water quality, source management should have as a goal, maximizing the quantity of water available to support human health and the environment. and initial barrier in a multiple barrier approach

In general, best management practices which are consistent with sustainability principles include:

- Source water protection
- Forestry and wildlife management
- Adopting or instituting regulatory controls on land use practices
- Undertaking proper reservoir management
- Developing effective public education and outreach

- Protection of ecological resources by maintaining stream health
- Security of water sources

Operations and Infrastructure

With respect to the issues of sustainability, the general heading of operations and infrastructure is clearly intertwined with the concept of efficiency. Efficiency and sustainable practices should be considered in the construction and maintenance of a water utility's built infrastructure, the mechanical systems used within the system, and all of the support services needed to produce a reliable source of potable water for the end user. Although this subject is wide ranging, minimizing energy use and developing and maintaining system efficiencies will be critical for the water profession now and into the future. Sustainability concepts can be implemented in the following topical areas:

Facilities operations

- Infrastructure Management
- Fleet Management is an area where water utilities can reduce their carbon footprint.
- Energy Use, Recovery, Generation (including alternative energy sources)
- Recycling and waste management
- Environmental compliance and safety

Demand Management

Sustainability practices in demand management encompass all of the end uses of water. Long term benefits of demand management include increased facility life, reduced energy use, reduced operational and capital costs. Reducing water system demand and overall water consumption is essential if we are to achieve a proper balance between human needs and ecological needs.

- Metering
- Rates
- Public Education
- Drought Management/Emergency Management
- Conservation Programs

Conclusions and Recommendations

Incorporating sustainable practices is in the long term interest of the water utility profession and society. Water professionals should take a leadership role in defining practical sustainable methods and practices, developing and disseminating knowledge and information. NEWWA can help facilitate our membership needs by developing, coordinating this role particularly in the regulatory community and with environmental stakeholders. Towards this end, we recommend the establishment of a permanent Sustainability Committee designed to coordinate and integrate the concepts of sustainable practices within the organization (i.e. with other committees) and for the general membership.