01 INTRODUCTION

Drinking water is also known as potable water. It is water which is fit for consumption by humans. This Plan is about drinking water – where it comes from, where we get it, how we get it, how we use it and its importance to our economy and the environment. This Plan describes the potable water resources of the State, and sets goals and policies for the management of issues pertaining to them. It focuses on critical policy and emerging trends for potable water systems at all management and planning levels to address. The Plan does not discuss the aspects of the natural resource functions of water resources and water quality protection for other purposes than drinking water because these issues are addressed in other State Guide Plan Elements. This Plan is intended to serve as the foundation of coordinated water supply policies for guiding today's and future drinking water management decisions.

The Plan was developed with guidance from an advisory committee of stakeholders. **It was adopted by the State Planning Council on June 14, 2012.** This revised State Guide Plan Element 721 consolidates and replaces 5 previous potable water policy plans. It is a consolidation of all prior elements into one unified element. The following Elements have been rescinded in their entirety:

- 1990 *Scituate Reservoir Watershed Management Plan* (Element 125)
- 1991 *Water Supply Plan for RI* (Element 721)
- 1993 *Rhode Island Emergency Water Supply Management Plan* (Element 723)
- 1997 *Water Supply Policies for Rhode Island* (Element 722)
- 2002 *Rhode Island Drought Management Plan* (Element 724)

When used with *Land Use 2025,* State Guide Plan Element 121, this Plan intends to guide public and private stewardship of drinking water supply resources in the State. As an Element of the State Guide Plan, it sets forth goals and policies that must, under State Law, be reflected in future updates of community comprehensive and water supply system management plans. Further, as Element 721 of the State Guide Plan, it requires the consistency of all publicly supported activities, including water supply planning or project implementation activities. State agencies, municipalities and all public and private entities using state or federal funding are expected to carry out any drinking water supply planning, management, projects, and activities in ways that are consistent with this Element. The Plan is based upon the following assumptions:

- Our understanding of the interdependencies among natural and built systems is ever evolving.
- Most water managers make decisions incrementally to manage the status quo.
- That all water resource decisions must recognize varying interests of the public and private sectors.

It is intended that this Element provides prevailing goals and polices for potable water supply planning in the State. In cases of conflicting or outdated polices and recommendations in other State Guide Plan Elements and other state plans / programs, this Element has precedence.

02 VISION STATEMENT:

To ensure safe, reliable, ample water supplies to meet the State's short and long range needs while preserving the physical, biological, and chemical integrity of the water resources of the State.

03 ISSUES ADDRESSED

This Plan addresses where our potable water comes from, the various types of drinking water systems in the State, and the organizational and managerial responsibilities of our water systems. It talks about private well issues and identified 3 water supply resources of state significance;

- 4 United Stated Environmental Protection Agency (EPA) designated sole source aquifers
- the Scituate Watershed Complex, and
- the Big River Watershed

EPA Designated Sole Source Aquifers

Four groundwater systems of the State have been classified as “Sole-Source Aquifers” by the United States Environmental Protection Agency (EPA). A sole source aquifer is a groundwater aquifer which has been designated as the "sole or principal" source of drinking water for an area that has no other source for water supply other than groundwater. The 4 aquifers are:

- Block Island
- Hunt-Annaquatucket-Pettaqumascutt
- Jamestown, and
- Wood-Pawcatuck

The Block Island Aquifer is located on the island of New Shoreham (Block Island). The Jamestown Aquifer is located on the island of Conanicut (Jamestown). The other 2 aquifers are located in the southern mainland interior of the State overlapping 11 communities.

Scituate Watershed Complex

The Scituate Watershed Complex is located in the north central part of RI. The watershed is located within 6 communities; Scituate, Foster, Glocester, Johnston, Cranston, and Smithfield. It consists of the main reservoir (Scituate Reservoir) and its five tributary reservoirs. It covers nearly 60,000 acres (about 93 square miles) of mostly rural and forested land. This represents about 9% of the total land area of the State and is 5 times the land area of the City of Providence. The watershed is the source for the largest public water supplier in the State, the Providence Water Supply Board (PWSB). This system provides water to the metropolitan areas of the State and about 600,000 persons or about 60% of State’s residents. This water comes from the Scituate Complex either directly through the PWSB retail service area or through a wholesale service to various other water suppliers that in turn supply water to various communities. The current retail service area where PWSB delivers water directly to users includes portions of North Providence, Cranston, Johnston and all of Providence. In addition, the wholesale water provided to other water utilities provides water to 16 other communities.

It is noted in the Plan that, several large public water suppliers which formerly relied upon their own sources of water have switched to entirely or partially relying upon the PWSB as a supply source. This increasing reliance on the largest public water system in the State points out the paradox of water supply issues in the State; the overall perceived abundance of the water resource is a false measure of its adequacy and security. The Scituate was never designed to be the single source of supply for the State and it has no backup supplies. This was one of the several factors considered in the State’s purchase of the Big River Watershed.

Big River Watershed

The Big River Watershed is located in the south central portion of RI. The watershed covers 29.7 square miles and is comprised of portions of 3 communities; Coventry, West Greenwich, and Exeter. It is not yet used for water supply. Due to the opposition to the proposed reservoir by the EPA and many other environmental organizations, the State halted the project in 1990 and no further action has taken place to advance the surface water reservoir project. In 1993, the RI General Assembly passed legislation (§ 37-20-1, Big River Reservoir Moratorium). This Act required that all land acquired by the State for the development of the "Big River Reservoir" shall not be sold nor shall the land be developed in any way. This open space legislation was amended in 1999 to allow for the development of groundwater wells and wells sites together with any necessary infrastructure for the treatment, transmission, storage and distribution of drinking water from the wells. Per RI Gen. Law 46-15.1-19.1 the area remains under the control of the Water Resources Board. This Plan sets forth strategies for the Water Resources Board to continue to evaluate the optimum use of the area for groundwater to supplement existing water supplies.

Other issues addressed are the available amount of water in the State along with the various sources of our water and how we are using it. New contemporary topics that the Plan addressed are:

- establishing financial stability for our aging infrastructure
- challenges of small water systems
- developing more water reuse
- using drinking water more efficiently
- the consideration of desalination
- addressing climate change, and
- ensuring there is reasonable amounts of water for economic development and the environment after meeting human needs

It also contains 2 subsections with distinct goals, polices and strategies for protecting public health through drought mitigation and emergency management planning for water systems.

Drought Mitigation

This section addresses mitigating long-term drought and establishes a statewide framework for coordinated responses in the event of a long-term drought. It is not to be used for managing annual seasonal dry periods or short-term dry periods. These periods occur almost every year as seasonal events. They involve a short time frame of decreasing rainfall. Sometimes they are accompanied by extremely dry and hot weather, but they do not extend from one year to the next. The primary responsibility for implementation of this portion of the Plan rests with the Water Resources Board staff using an advisory Drought Steering Committee which is convened as needed. The Plan defines 5 phases of drought consistent with the Drought Watch/Warning System of the National Weather Service:

1. Normal
2. Advisory
3. Watch
4. Warning and
5. Emergency

The Plan delineates 7 drought-planning regions for the State. The Normal, Advisory and Watch phases are issued on a statewide basis. The more severe Warning and Emergency phases are to be issued on a regional basis, taking into consideration local hydrological conditions, sources of drinking water supplies, water uses, and infrastructure considerations. The Drought Steering Committee will recommend phases and necessary actions for the State based on the hydrological and meteorological indices in the Plan.

Emergency Management

Water supply emergencies may result from natural or man-made events such as floods, hurricanes, earthquakes, tornadoes, hazardous substance spills, mechanical or dam failure, or civil disorder, which disrupt the supply system. These events may result in pollution or contamination of water supplies, prolonged power outages, transmission or distribution system failure, or other structural damage causing a disruption of service, and or water shortage. This section identifies the key areas of concern related to providing drinking water to citizens of the State at times of extraordinary circumstance when coordination is needed between municipalities, interagency services are required, or transportation of water is required beyond the scope of the supplier. Varying degrees of emergency response depend on the scope of a situation and type of disaster or crisis. The purpose of this Section is to provide drinking water utilities and municipalities with planning recommendations derived from emergency management, mitigation planning, and emergency response resources. The intention is to help drinking water and wastewater utilities incorporate all-hazard consequence management concepts into their existing emergency preparedness, response, and recovery planning.

04 GOALS AND POLICIES

The goals of the Plan resulted from an evaluation of issues by the Water Supply Advisory Committee. Responsibility for addressing these issues is shared by various levels of government, water supply managers, and private organizations. Pertinent information from various stakeholders regarding each of these sectors was brought to bear in defining the issues, developing policies, and recommending the strategies that comprise the Implementation Matrix. The Advisory Committee reviewed and considered issues from the 5 previous SGP elements. Previous issues were reviewed and updated, consolidated, or removed – depending upon the Committee's judgment as to whether they were a continuing concern or had been acted upon. Specific goals, policies and strategies were proposed to implement the Plan as suggested by the Advisory Committee and were approved by the State Planning Council. They are classified in two over arching categories --- Integrated Management and Planning, and Water Resources Management.

Integrated Management and Planning - addresses goals for water systems concerning the ongoing operation of water supply systems. They also address the various responsibilities of governmental units for the coordination and planning required for source protection, cost control and maintaining the viability of all water systems within the State.

Integrated Management and Planning Goals

- Integrate water resources and supply planning for water systems across intergovernmental and regional jurisdictions.
- Ensure the adequate technical, managerial, and financial capacity of water systems.
- Manage and plan for water systems that support sustainable, compact land use and concentrate development within the urban service boundary and or growth centers.

Water Resources Management - addresses goals for; categorizing our available resources, what water resource protection efforts are needed, the development of new sources consistent with *Land Use 2025*, necessary emergency and drought mitigation planning, and demand management efforts. Demand management efforts by system managers should ensure awareness of the importance of water resources, stress water use efficiency, and encourage technological advances to promote efficiency of water use both in system management and the overall use of drinking water.

Water Resource Management Goals

- Manage and plan for the sustainable water use and development of the water resources of the State.
- Protect and preserve the health and ecological functions of the water resources of the State.
- Ensure a reasonable supply of quality drinking water for the State.
- Ensure the protection of public health, safety and welfare and essential drinking water resources during water supply emergencies

The Water Resource Management category is further divided into nine sub policy themes under the 4 goals above:

- Water Resource Management
- Resource Assessment
- Water Quantity
- Water Quality
- Demand Management
- Climate Change
- Potable Supply Management
- Drought Mitigation
- Emergency Management

05 STRATEGIES: IMPLEMENTATION MATRIX

The Implementation Matrix contains 205 goals, policies, and strategies for the 2 over arching general areas and the 9 policy themes outlined above under those areas. All policies are referenced by the goal /policy abbreviations cited in the text. The framework for the strategies is as follows:

Goal(s)
Policies
Strategies for each policy
Lead Agency
Supporting Agencies
Timeframes
As Necessary
Ongoing
Short Term (1-2 years)
Medium term (3-5 years)
Long term (more than 5 years)