

**GROTON UTILITIES WATERSHED
BACKGROUND / HISTORY
ON DEVELOPMENT, TREATMENT STANDARDS & SOURCE WATER
PROTECTION
FOR A
DRINKING WATER QUALITY MANAGEMENT PLAN**

- 1974** Started watershed sanitary surveys as a direct result of the institution of the **Safe Drinking Water Act (SDWA)** which created stricter limits on treatment and source water protection.
- 1979** In 1979, the EPA set standards for **Disinfection Byproducts**. Specifically, it set an interim MCL for total trihalomethanes of 0.10 mg/l as an annual average. This applied to any community water system serving at least 10,000 people that added a disinfectant to the drinking water during any part of the treatment process.
- 1980's** Intermittent residential and small commercial **development** within Groton and Ledyard begins to show a perceptible increase in close proximity to the terminal reservoir system.
- The Groton **Industrial Park** is set up along Route 117 and commercial sites are set up on Poheganut Drive.
- There is a significant growth in the number and size of **commercial development** sites along the west end of Route 184.
- Major (DOT) **highway construction work** is undertaken along Route 117 without the benefit of sedimentation and erosion controls – this creates a spike in turbidity and Coliform and leads to more definitive reviews of major construction projects within the watershed.
- Groton Utilities issues its first bond fund for the **acquisition of watershed land for resource protection**.
- 1989** The **Surface Water Treatment Rule** is promulgated in 1989. This rule was applied to all public water systems using surface water sources or ground water sources under the direct influence of surface water. It established maximum contaminant level goals (MCLGs) for viruses, bacteria and Giardia lamblia. It also included treatment technique requirements for filtered and unfiltered systems that were specifically designed to protect against the adverse health effects of exposure to these microbial pathogens.
- 1989** The **Total Coliform Rule**, revised in 1989, was applied to all public water systems and established a maximum contaminant level (MCL) for total coliforms.

- 1990** The **Town of Groton** begins the implementation of a formal **GIS program** with an aerial mapping project. Information includes property parcels, hydrography, topographic information and many infrastructure features.
- 1994** DEP Diversion and Dam Construction Permits are issued for the **installation of a new crest gate at Morgan Reservoir Dam**. This new facility now provides for the storage of an additional 300 million gallons of water that originally provided an extra 30 days of supply and now provides a safety margin for the distribution of water to regional customers.
- 1996** The **1996 Safe Drinking Water Act Amendments** placed a new focus on source water protection. States were asked to implement Source Water Assessment Programs (SWAPs) to assess areas serving as sources of drinking water in order to identify potential threats and initiate protection efforts.
- 1996** The **first regional sale of water** from Groton Utilities to the Town of Ledyard is permitted through the Department of Health and the Department of Environmental Protection along the Route 12 corridor, from the Groton Town Line at the south end to Poquetanuck Cove at the north end. This is a cooperative effort between Groton Utilities and the Town of Ledyard to alleviate water needs for residential, commercial and industrial customers along a major transportation corridor.
- 1998 - 2003** **Microbial and Disinfection Byproducts Rules** – During this period, the EPA sets a series of interim and final rules for treatment and protection of water resources, including the **Interim Enhanced Surface Water Treatment Rule and Stage 1 Disinfection Byproduct Rule** (1998), the Final **Filter Backwash Recycling Rule** (2001), the Final **Long Term 1 Enhanced Surface Water Treatment Rule** (2001), the **Proposed Stage 2 Disinfection Byproduct Rule & Long Term 2 Enhanced Surface Water Treatment Rule** (2003), and the Final **Groundwater Rule**.
- 1999** Proposal for Marriott Hotel and Conference Facility adjacent to Poheganut Reservoir (in Groton).
- 1999** The **Town of Groton** updates the informational base for its GIS system. At this point, the **GIS data** has become an important tool for Groton Utilities in watershed planning and monitoring activities.
- 1999** **Phase II Stormwater regulations** for small municipalities are finalized by EPA. These regulations provide for an inventory of stormwater systems, monitoring of stormwater discharges from construction and industrial activities, provisions for public education and participation, detection of illicit discharges and a post construction control program that provides for future pollution prevention measures.

- 2000** Development of Marriott Hotel site with use of **innovative stormwater treatment technologies**; earns EPA recognition for commitment to maintaining high drinking water quality.
- 2001** Commercial development proposal (including office, retail, fuel dispensing and car wash facilities) in Ledyard Center.
- 2002** Proposal to increase size of Pequot Medical Center – increase in building size, additional parking, **added stormwater runoff in close proximity to Smith Lake**.
- 2002** EPA finalizes the **Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR)**. The purposes of the LT1ESWTR are to improve control of microbial pathogens, specifically the protozoan Cryptosporidium, in drinking water, and address risk trade-offs with disinfection byproducts.
- 2002** The **Town of Groton** updates its Plan of Conservation and Development, stressing several conservation themes – particularly the **preservation of natural resources**. The Plan states that the “Protection of water quality is Groton’s most important natural resource preservation priority.”
- 2002 - 2003** There is an increase in the number and size of subdivision proposals in the Ledyard and Groton watershed areas (August Estates Subdivision, Porter Subdivision, Great Brook Subdivision).
- 2003** The **Town of Ledyard** updates its Plan of Conservation and Development; it is noted therein that “The town’s drinking water is vulnerable to development activities.” One of the stated goals is to “**Protect water quality and implement a source protection strategy** through: 1) proactive zoning; 2) natural resource based planning and site design; 3) use of best management practices; and 4) **water company review of proposed development projects located within designated source protection areas.**”
- 2003** With cooperation of community stakeholders, Pequot Medical Center expansion moves ahead, again with the use of **innovative stormwater treatment and source water protection initiatives**. DPH involvement and cooperation was required to gain legislative approval for this project since it was located on Class I and Class II watershed land (i.e., utility owned property).
- 2003** Garbage truck burns; fire suppression creates a **spill of hazardous materials** into the drainage system along Sandy Hollow Road; the discharge flows directly into Morgan Reservoir without treatment or detention.
- 2003** **Development proposal** for Great Brook Subdivision in close proximity to the incoming stream (Great Brook) to the terminal reservoir system. Groton Utilities works with the Town of Groton, DPH, DEP and the developer to limit the number

of lots and the **impact to water quality and security** to the watershed and reservoir system.

- 2003** There are incipient **discussions and meetings with the watershed towns and the DPH to discuss source water protection**. There is an awareness that the watershed crosses community lines and will require crucial input from all stakeholder communities – both for existing and future water supply sources.
- 2004** Continued development proposals in Groton, Ledyard and surrounding community areas for subdivisions, commercial and industrial sites. The pace of development points to the **necessity of getting local and regional shareholders to work together** toward a common goal.
- 2004** There is a proposed regulation change in Ledyard to allow for development of a 300-acre golf course and adult community housing area. **Impact on source water protection** is now an important consideration expressed by several community groups. Again the DPH is involved and the community is reminded that many stakeholders may be impacted by such a significant change in zoning.
- 2004** The Connecticut Department of Environmental Protection issues a **general stormwater permit**; stormwater discharges associated with construction activities between one and five acres are now regulated by DEP through a cooperative effort with municipalities.
- 2005** Meetings with DPH, the Town of Groton, the Town of Ledyard, and other stakeholders to discuss source water protection through the establishment of a **Drinking Water Quality Management Plan (DWQMP)** that is developed by and meets the needs of locally impacted communities.
- 2005** Groton Utilities works with the DOT to install **concrete barriers along the I-95** northbound and southbound sections adjacent to the terminal reservoir system. This is in addition to previously installed detention basins between the highway sections, which are currently not maintained and in need of improvements. Follow-up maintenance is now a critical issue for the long term health of the watershed in that installation of protective structures takes continued upkeep subsequent to construction. This will require a continued source of funding.
- 2006** Groton Utilities, in cooperation with the Department of Public Health, local legislators and local stakeholders, submits a **legislative proposal** to enact a bill to establish a Drinking Water Quality Management Plan and to seek funding for the preparation of the plan.
- 2006** February - The Drinking Water Quality Management Plan receives the **support of regional municipal officials through the Southeastern Connecticut Council of Governments (SCCOG)**.

- 2006** April – The **first formal stakeholders** meeting is held at the Groton Utilities’ Operations Complex to discuss the current health of the watershed and future issues for the water quality management of the watershed. Also discussed is the construction and expansion of the distribution system to surrounding communities, thereby increasing the awareness for the importance of maintaining the water quality of the Groton Utilities and other potential watersheds.
- 2006** May – The **second stakeholders meeting**, held in Ledyard, strives to establish a vision and mission to set up goals for the impending DWQMP. Additional interested parties are added to the advisory and stakeholder group and discussions center on the continued development of an actual working plan that will be dynamic in nature and tailored to the needs and competing interests of various community groups.
- 2006** June – The **third stakeholders meeting** is held at the Preston Plains Middle School in the Town of Preston. At this meeting, the vision and mission statements are finalized and accepted, and a detailed discussion of goals to be achieved by the implementation of the Drinking Water Quality Management Plan produces a list of many objectives from the various stakeholder groups. One of the major objectives, particularly for the DPH, is to produce a plan that can serve as a model for other utility and watershed groups to protect resources for future generations.
- 2006** The **Final Long Term 2 Enhanced Surface Water Treatment Rule** is pending and scheduled to be enacted in 2006. Once implemented, this final rule will again define the importance of source water protection initiatives in conjunction with new treatment standards.
- 2006** A **new supply link is created through the construction of a water line beneath the Thames River** from the Groton Utilities distribution system through the Town of Ledyard to Montville. This link will eventually augment the water supply needs for both the Town of Montville and the Mohegan Tribe.
- 2006** Through the cooperation of several interested watershed groups, Groton Utilities continues to pursue the **acquisition of properties and / or easements within the current and potential future watersheds for source protection**. In addition, until the preparation of recommendations from a consultant and the establishment of specific guidelines from the DWQMP committee, Groton Utilities has developed a memorandum of understanding with developers of residential, commercial and industrial developments (within the watershed) for future **monitoring, inspection and maintenance of stormwater facilities** subsequent to the completion of construction and the lapse of conditions of approval established by local commissions.
- 2006** July 2006 – Groton Utilities sets up a **website for the Drinking Water Quality Management Plan**; the site includes background information, links to

stakeholders, minutes of meetings and links to regulatory and governmental organizations in the southeast Connecticut area.