

**Town of Harwich
2015 TOWN REPORT - WATER DEPARTMENT**

The Harwich Board of Water Commissioners and Water Department respectfully submit our Annual Report to the Honorable Board of Selectmen and to the citizens of the Town of Harwich for the year ending 2015.

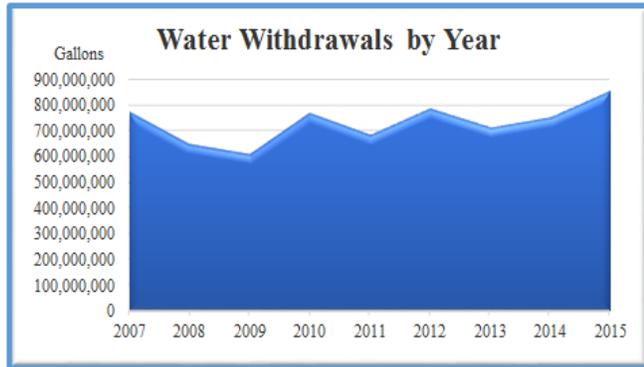
Water System

The original water system was established in 1936. Major expansion projects were undertaken in the 1950s, late 1960s and again in the late 1970s, these expansions made the water distribution system that it is today.

The Water Department operation consists of 14 pump stations, approximately 400 acres of well fields/watershed protection areas, 5 corrosion control facilities, 3 elevated water storage tanks and 2 new Greensand Water Treatment facilities which provide service to 9,849 metered accounts, 125 fire sprinkler accounts and 1,360 fire hydrants for fire protection.

Water Withdrawal

The Water Department pumped 854,307,602 million gallons of water from our wellfields during 2015. Most of the water pumped was withdrawn from Chatham Road and Depot Road wells.



Water Department Comparative Table

Year	Rainfall in Inches	Gallons Pumped	Maximum Daily	Year	Rainfall in Inches	Gallons Pumped	Maximum Daily
1996	63.33	555,982,400	4,344,600	2006	42.03	666,986,217	5,052,381
1997	48.46	620,145,100	5,627,100	2007	30.89	772,525,325	5,659,678
1998	49.93	619,321,800	4,740,800	2008	35.60	649,958,341	5,401,605
1999	44.48	710,729,600	5,681,400	2009	49.89	605,297,549	4,386,341
2000	48.11	644,636,400	5,065,400	2010	46.76	769,662,599	7,062,033
2001	36.76	730,249,000	5,879,600	2011	44.28	683,643,260	5,237,726
2002	50.44	735,869,800	5,666,970	2012	36.10	781,299,860	6,288,802
2003	53.75	687,473,053	5,701,605	2013	44.34	711,486,828	5,515,227
2004	37.88	680,194,630	5,568,509	2014	47.04	751,753,322	5,392,562
2005	61.42	759,802,792	5,728,926	2015	43.74	854,307,602	6,541,071

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Water Quality

The Harwich Water Department is constantly striving to provide its consumers with the best water possible. The water provided to the residents of Harwich is tested numerous times a month for a variety of contaminants, and continues to provide water that meets or exceeds State and Federal standards. The results of this testing are located within the Annual Water Quality Report on the department website. Iron and Manganese levels in the untreated source water have, in the past, caused unfavorable aesthetic qualities in the water. Sources containing these impurities were infrequently pumped. Since the addition of the Bruce Cahoon Greensand Water Treatment Facility and recently completed North Westgate Treatment Facility, these minerals are no longer affecting the water quality.

In 2014, we tested for NSTAR herbicide chemicals; Triclopyr, Glyphosate, and Metsulfuron-Methyl chemicals, and none were detected. There is no concern that these chemicals are in our water supply at this time, however, we do plan to test again in the future.

Nitrogen and Phosphorus in fertilizer are the greatest concern to water quality. Generally speaking, lawns need less fertilizer than advertised and there are multitudes of fertilizing alternatives available today. While water quality in Harwich is excellent, let's do our best to keep it that way and protect our precious resource.

System Improvements

Improvements over the past decade consist of a new 1.5 MG water tank on Oak Street, 2 water treatment facilities; Depot Road and North Westgate Road, Route 39 water storage tank rehabilitation, redevelopment of all wells, 5 miles of fiber optics - optimizing SCADA (Supervisory Control and Data Acquisition) system communications for remote monitoring and control, installation of additional generators throughout facilities, electrical system upgrades at 4 stations and 3 buildings and pump upgrades.

The Department's continuous improvements and redevelopment is a symbol to its dedication to providing excellent drinking water. The Department appreciates the continued support of the community. Our Master Plan identifies a backlog of approximately \$40 million in capital improvements. More current capital items identified in our 7-year capital plan include:

- 2016 Lothrop Avenue Tank Replacement
- 2016 SCADA Upgrade
- 2016 Excavator Acquisition
- 2020 Pleasant Lake Tank Rehabilitation
- 2021 Asbestos Main Project Engineering

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- 2022 Asbestos Main Project; Remove/Replace 7,900 feet of Asbestos Water Main.

North Westgate Water Treatment Facility

The North Westgate Water Treatment Facility construction was completed in late 2014 and put online in the early spring. This is our second greensand water treatment facility which will treat up to 1 MGD and is expandable to 3.MGD. Full use of the well field at this location will help to keep the Lothrop Tank full without pumping water from the east end of Harwich.

System Maintenance

Ongoing maintenance and inspection programs continue for hydrant and valves, wells, pumps and water storage tanks. We continue to increase the number of valves in our system which will decrease the number of customers that could be without water during a water emergency, and provide better isolation control during hydrant flushing. Water meter upgrades continue with meters being replaced if they are 15 years and older.

Operations

The Water Department offers a wide variety of services from seasonal water turn on/off, new and renewal water service installation, utility markouts, final readings for property transfers, backflow inspection and much more. Below is a summary of services performed in 2015:

2015 Annual Statistics of Services Performed

Curb Stop Repair / Renewals	1	Property Transfers Requests	354
Frozen Water Meters / Services	23	Radio Reads Installed / Replaced	537
Meter Reading Troubleshoot	198	Renewal of Water Services	48
Hydrant Maintenance/Repairs	6	Seasonal Turn On / Off	1197
Hydrant Replacement	2	Water Main Repairs	14
Hydrants Installed	0	Meter Change Outs	380
Mark Outs	319	Meters Installed	42
New Water Service Installations	42	Water Service Repairs	51

Radio read devices continue to be installed throughout the customer base. In 2015, we installed an additional 537 radio read devices or E-coder meters which correlates to a total of 9,145 or 93% of our customers. Radio read devices compliment the meter and encode, receive, and transmit the data by low-frequency radio signal. E-coder meters will now be installed, which provide an all-in-one device and will eventually replace radio read devices. Technician time allotted to meter reading has been greatly reduced, which frees them up for other duties.

Service Tight Protection Plan

Did you know that as a homeowner you are responsible for the water service line that runs from the street to your home? In many cases those lines have been in place since your home was

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originally built. Many homeowners assume the lines are the water department's responsibility or any problems on the lines are covered under their homeowners' insurance policies. Unfortunately, these are false assumptions. Replacing a water service can cost \$2,000 or more.

Why not protect yourself and sign up for our *Service Tight Protection Plan!* For as little as \$68 per year we can protect participants from costly repairs or replacement costs in the event of a water service break at your property. Exclusions do apply so please see our brochure for eligibility. You can learn more about this plan and enroll by visiting our website and/or feel free to contact our office and we'll mail you a brochure.

Drought Management and Conservation

The Water Department has placed drought management signs throughout the Harwich Community. During peak season please refer to the signs around town as well as notices on our website for drought notification. We continue to encourage our customers to be diligent in conserving water even if supply is abundant.

It is important to keep in mind that the average person uses 80-100 gallons of water per day on the following activities:

Bathing & Hygiene	15 gallons per day	Kitchen	7 gallons per day
Housekeeping	1 gallon per day	Laundry	8 gallons per day
Irrigation/Watering	70 gallons per day	Toilet	19 gallons per day

To review your metered water bill, divide your water usage by the number of days in the billing period (approximately 180 days) and also by the number of residents of your household to determine your average.

High Consumption and Irrigation Systems

The majority of our high consumption calls following fall billing are related to irrigation use. These calls are generally made when the irrigation is shut down for the season and the seasonal home is vacant. We can't stress enough the importance of our customers becoming familiar with their irrigation systems to anticipate the expense. You may need the help of your irrigation company to determine the number of zones, number of heads in each zone, frequency of zones running, and how much water is used for a full cycle and/or each day, each week, each month, etc. Consumption should be monitored on a regular basis by checking your water meter readings so any issue that may exist is caught before a full watering season has passed so that an issue can be addressed immediately. All water that passes through the meter is the responsibility of the homeowner, and who wants to pay for water that is lost? More importantly, it is a waste of our precious water resource.

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Water Rates and Financial Overview

There was a rate increase in fiscal year 2016 that consists of a 7.7% increase to the semi-annual base rate (\$65 to \$70) and a 6% increase on tier rates. Water rate increases continue to provide for inflation of operational and maintenance expenses as well as current and future capital improvements. With the addition of our second Greensand Water Treatment Plant in 2015, related debt was the largest increase to our FY16 budget. Other increases consisted of indirect costs, utility and water treatment chemical costs and employee COLA and benefits.

In addition to water rates and services, we continue to look for other revenue sources. In 2015, the Department lost a newer revenue source when the cell tower project, planned for construction in the vicinity of our Chatham Road facility, fell through. Fortunately, the Department began receiving it's share of solar revenue in FY15. This will help to alleviate the ever-increasing electricity costs to run our operations.

FY15 Financial Summary

Expenses

Salary and Wages	994,648
Supplies, Services & Maintenance/Repair	1,099,906
Indirect Expenses; Insurance & Employee Benefits	495,520
Debt	697,089
Articles & Encumbrances	<u>50,816</u>
Total Expenses	3,337,979

Revenues

Water Rates & Recurring Services	3,466,596
Service Repairs & Technical Services	86,444
Service Tight Protection Plan	47,465
Backflow Inspection	22,790
Water Service Installation and Renewals	189,746
Late Fees, Interest, Lien Interest & Penalties	53,357
Wireless Communications Lease	<u>156,679</u>
Total Revenues	4,023,076

Water Enterprise Fund Balance Summary

FY14 Fund Balance	905,812
FY15 Fund Balance	1,764,695
FY15 Abatements & Adjustments	-11,012

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Conclusion

As we begin 2016, the Board of Water Commissioners would like to thank the dedicated staff that is continuously providing the consumers with excellent water and customer service. We would also like to welcome the department's new Superintendent Daniel Pelletier and Water Commissioner Gary Carreiro, thank former Water Commissioner Donald Bates for his 18 years of service to the department, and commend the Water Department for receiving the 2015 Public Water System Award from the Commonwealth of Massachusetts Department of Environmental Protection Drinking Water Program for Outstanding Performance and Achievement in 2014. The Board of Water Commissioners would also like to extend our appreciation for the continued support of all Town Departments, Town Committees, and Boards.

Sincerely,

Board of Water Commissioners

Allin Thompson, Chairman

Danette Gonsalves, Vice Chairman

Gary Carreiro, Clerk