

**Town of Harwich**  
**2014 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 2014.

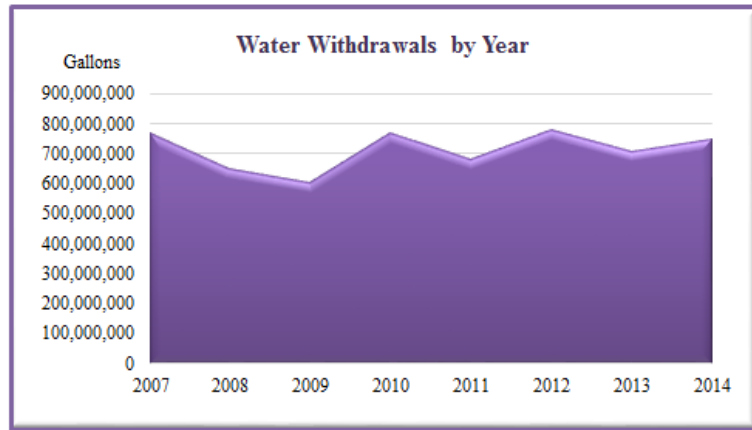
**Water System**

The original water system was established in 1936. Although major expansion projects were undertaken in the 1950s, late 1960s and again in the late 1970s, these expansions were accredited to system expansion.

The Water Department operation consists of 14 pump stations, approximately 400 acres of well fields/watershed protection areas, 5 corrosion facilities, 3 elevated water storage tanks and 2 new Greensand Water Treatment facilities which provide service to 9,824 metered accounts, 138 fire sprinkler accounts and 1,360 fire hydrants for fire protection.

**Water Quantity**

The Water Department pumped 751,753,322 million gallons of water from our wellfields during 2014. Most of this pumpage was withdrawn from Chatham Road and Depot Road wells. Withdrawals were higher than last year, but lower than the year prior.



**Water Department Comparative Table**

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

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**Water Quality**

Iron and Manganese levels that had been increasing over the past 10 years have been greatly reduced since the addition of the Bruce Cahoon Greensand Water Treatment Facility. In 2015 our second and newest North Westgate Treatment Facility will be online which will provide for town-wide resolution to our elevated iron and manganese.

In 2014, we tested for NSTAR herbicide chemicals; Tricolpr, 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 system communications, installation of additional generators throughout facilities, electrical system upgrades at 4 stations and 3 buildings and pump upgrades; from submersible pumps to more efficient turbine pumps at 13 of 14 wells.

Although we are making progress, there is so much more needed. Our Master Plan identifies a backlog of approximately \$40 million in capital improvements. Phase I includes water main replacement in Southeast Harwich in coordination with the installation of new sewer mains. More current capital items identified in our 7-year capital plan include:

- 2016 Lothrop Avenue Tank Engineering Study; Tank Replacement vs. Rehabilitation. (\$1.6M authorized at ATM 2013 is not sufficient for rehabilitation)
- 2016 Vehicle Replacement
- 2017 Lothrop Avenue Tank Replacement
- 2018 Equipment Replacement
- 2020 Pleasant Lake Tank Rehabilitation
- 2021 Asbestos Main Project Engineering
- 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 is anticipated to go online in January 2015. 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

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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 a more discrete 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 2014:

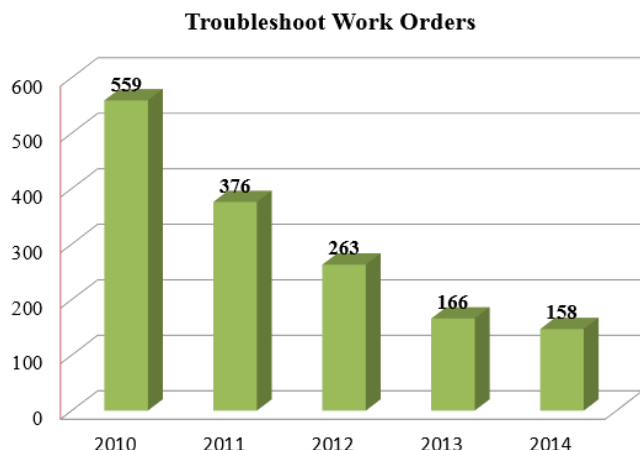
**2014 Annual Statistics of Services Performed**

Curb Stop Repair / Renewals	40	Property Transfers Requests	265
Frozen Water Meters / Services	7	Radio Reads Installed / Replaced	700
Meter Reading Troubleshoot	143	Renewal of Water Services	40
Hydrant Maintenance/Repairs	3	Seasonal Turn On / Off	1,179
Hydrant Replacement	4	Water Main Repairs	11
Hydrants Installed	0	Meter Change Outs	447
Mark Outs	389	Meters Installed	32
New Water Service Installations	32	Water Service Repairs	2,295

Radio read devices continue to be installed throughout the customer base. In 2014, we installed an additional 700 radio reads which correlates to a total of 7,842 or 80% of our customers. Radio read devices compliment the meter and encode, receive, and transmit the data by low-frequency radio signal. Technician time allotted to meter reading has been greatly reduced, which frees them up for other duties.

Along the same lines of streamlining and efficiency of Department operations, thanks to the coordinated efforts of our Billing Department, Technicians and Customers who promptly replied to our request for access, the number of meter reading troubleshoots has decreased within the past few years from 559 to 159 in 2014; a decrease of 72%. As always, we appreciate your continued patience and cooperation.

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9,824 Metered Accounts

**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 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. 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 and our Draft Drought Action Plan will soon be available on our website. During peak season please refer to the signs around town as well as notices on our website. 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.

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**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.

**Water Rates and Financial Overview**

There was no increase in water rates in fiscal year 2015, but a rate increase is scheduled in fiscal year 2016. Water rate increases continue to provide for inflation of operational and maintenance expenses as well as current and future capital improvements. When compared with off-Cape water rates, the Cape's water rates, in general, are low.

In addition to water rates and services, we continue to look for other revenue sources. Our newest revenue source is a cell tower that will be constructed behind the Water Department location on Chatham Road. Construction is anticipated in early 2015, however, revenues are already being collected.

**FY2014 Financial Summary**

**Expenses**

Salary and Wages	1,009,631
Supplies, Services & Maintenance/Repair	1,099,906
Indirect Expenses; Insurance & Employee Benefits	522,540
Debt	716,089
Articles & Encumbrances	<u>120,774</u>
<b>Total Expenses</b>	<b>3,468,940</b>

**Revenues**

Water Rates & Recurring Services	3,230,613
Service Repairs & Technical Services	67,513
Service Tight Protection Plan	38,189
Backflow Inspection	10,455
Water Service Installation and Renewals	138,357

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Late Fees, Interest, Lien Interest & Penalties	58,179
Wireless Communications Lease	138,158
<b>Total Revenues</b>	<b>3,681,464</b>

**Water Enterprise Fund Balance Summary**

FY13 Fund Balance	1,035,136
FY14 Fund Balance to be Certified	<b>905,812</b>

FY13 Abatements & Adjustments	-19,798
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**Conclusion**

As we begin the 2015, the Board of Water Commissioners will be seeking to fill the vacancy of our Water and Wastewater Director. During our transition period we have been fortunate for the support of Town Administrator, Christopher Clark and the Water Department Staff – a special thank you is in order for a job well done! 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

Donald Bates, Clerk