



Article 42:

Water System Expenditures

To determine whether the Town will vote that the income from user fees, special service fees, and jobbing services by the Water and Sewer Division of Concord Public Works during the ensuing fiscal year, together with the balance of operating cash in the Water Fund, be expended without further appropriation under the direction and control of the Town Manager in accordance with the Motion passed under Article 38 of the 1974 Annual Town Meeting, or take any other action relative thereto.



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Program Objectives

- Comply with Regulatory and Statutory Requirements
- Achieve a High Level of Customer Satisfaction
- Provide Sufficient Supply for the Current and Future Needs of Concord



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Program Objectives

- Well Maintained & Operated Facilities and Infrastructure
- Reasonable and Competitive Rates through Sound Investments and Planning
- Hire, Retain and Train Professional Workforce



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Water System

Value of Infrastructure Assets ~ \$21.7 Million

- 1 - Surface Water Source (Nagog Pond)
- 6 - Ground Water Supplies
- 7 - Pumping Stations
- 2 - Advanced Water Treatment Facilities
- 2 - Reservoirs (7.5 MG Storage)
- 134 - Miles of Distribution Mains
- 1,328 - Fire Hydrants



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FY20 – Capital Improvement Plan (major components)

Proposed Expenditures – \$ 17,183,455

\$ 11,010,275 - Nagog Treatment (Construction)

\$ 2,209,000 - Nagog Intake

\$ 1,370,000 - Main Replacement

\$ 440,000 - Reservoir Rehabilitation

\$ 250,000 - Meter Reading Upgrade (Phase I)

\$ 210,000 - Station Structures (2nd Division)



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FY20 – Operations & Maintenance Plan

Proposed Expenditures – **\$ 4,981,967**

\$ 2,721,913 – Pumping, Treatment, Distribution and
Storage

\$ 1,568,209 – Depreciation

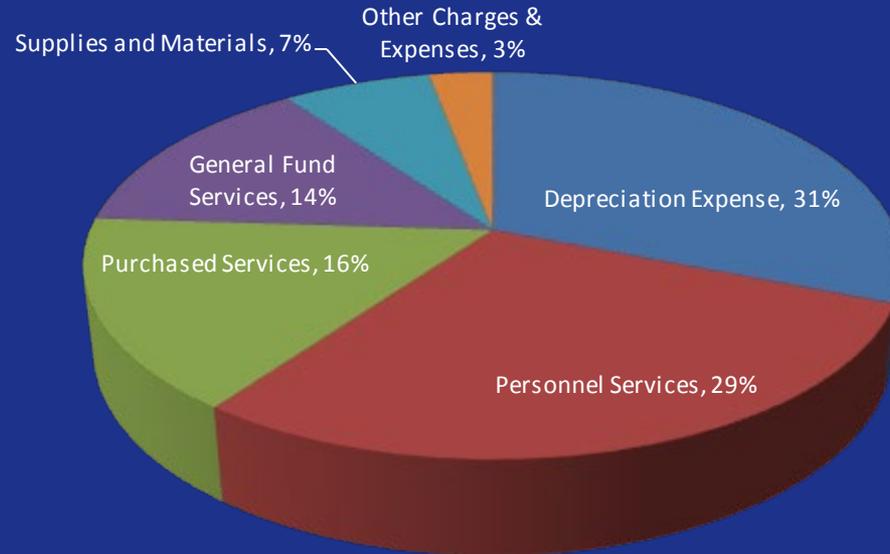
\$ 691,844 – General Fund Services



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FY20 Operating Expenditures

Totaling \$4,981,967





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FY20 – Residential Rates

Proposed Adjustment (FY 19 to FY20):

*1st Step** - \$0.0564 (+5.0 %)

2nd Step - \$0.1184 (+5.0 %)

3rd Step - \$0.1495 (+5.1 %)

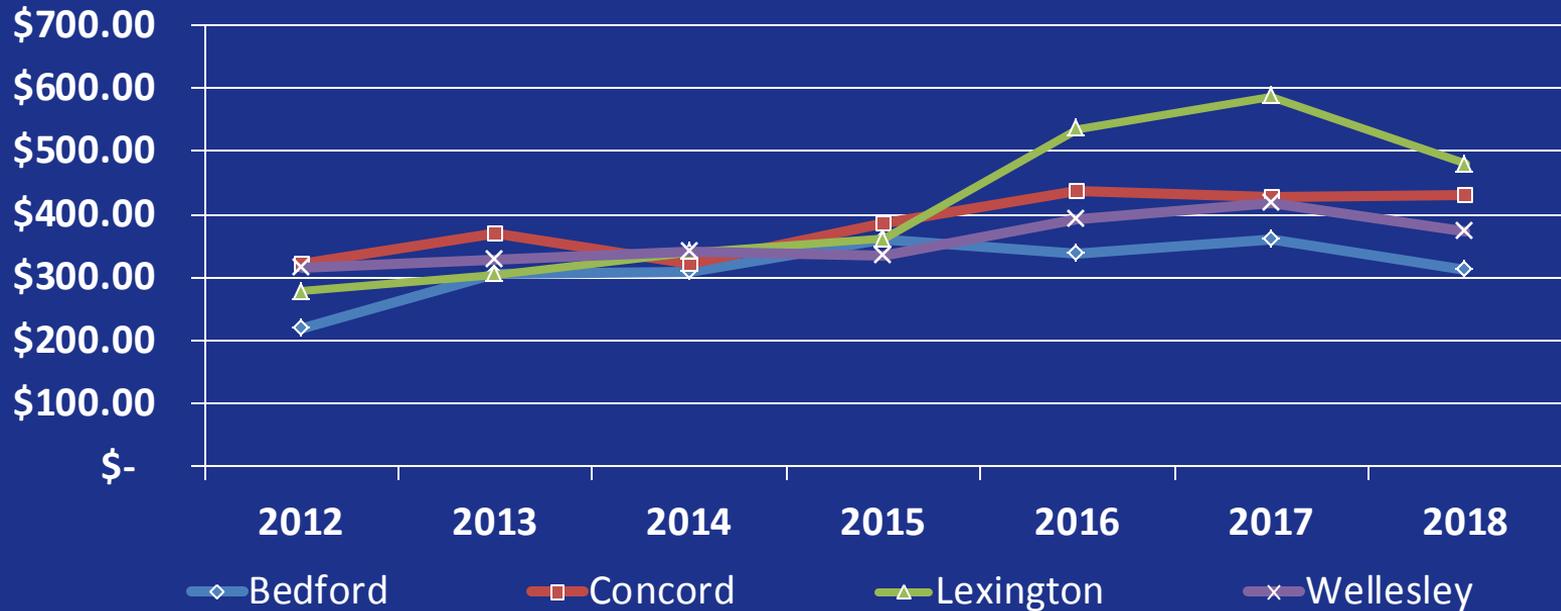
Impact on Avg. Residential Customer ~ \$ 24.30/year

* Discount Rate: Savings of over \$300/Year



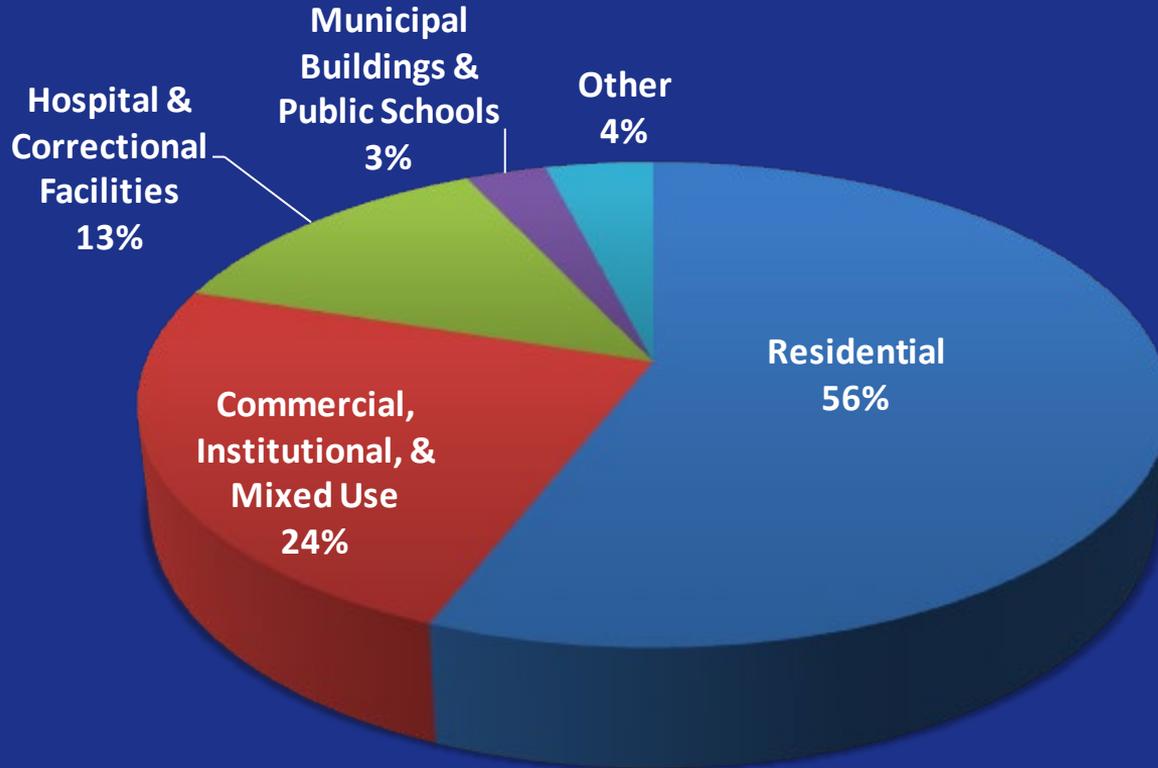
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Typical Annual Residential Water User Fees Based on Actual Use





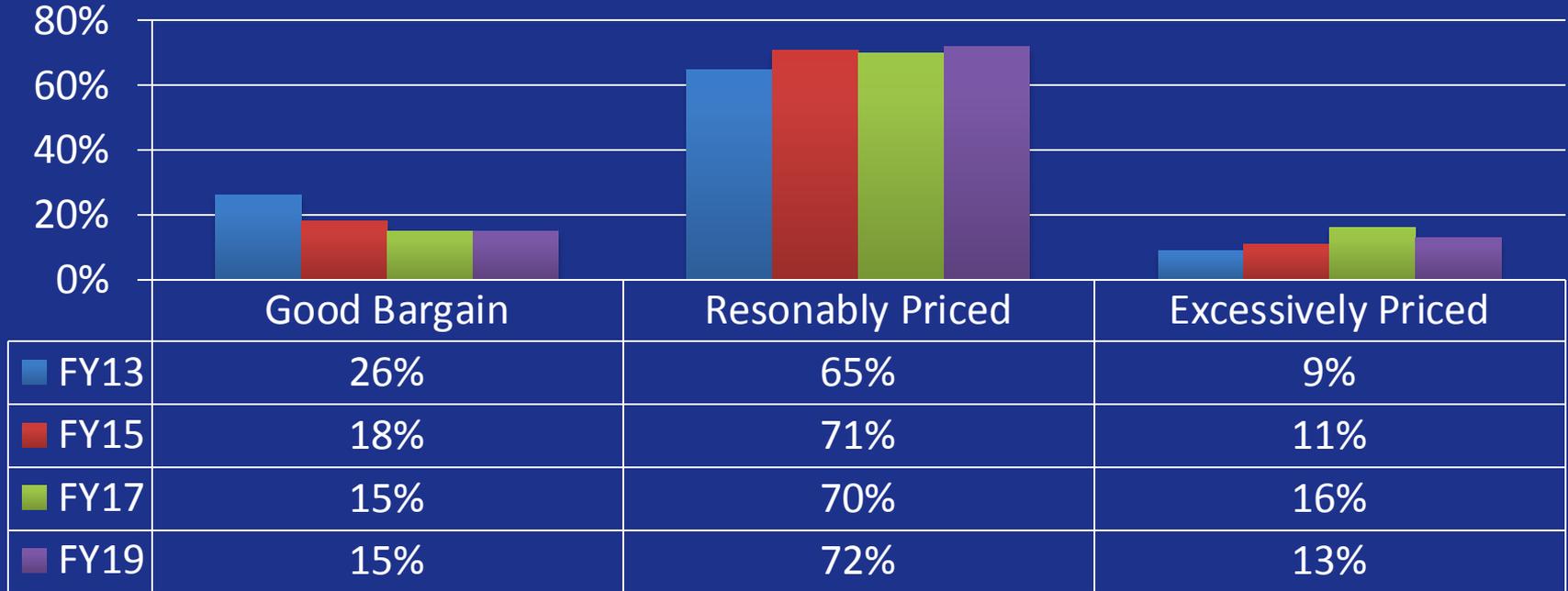
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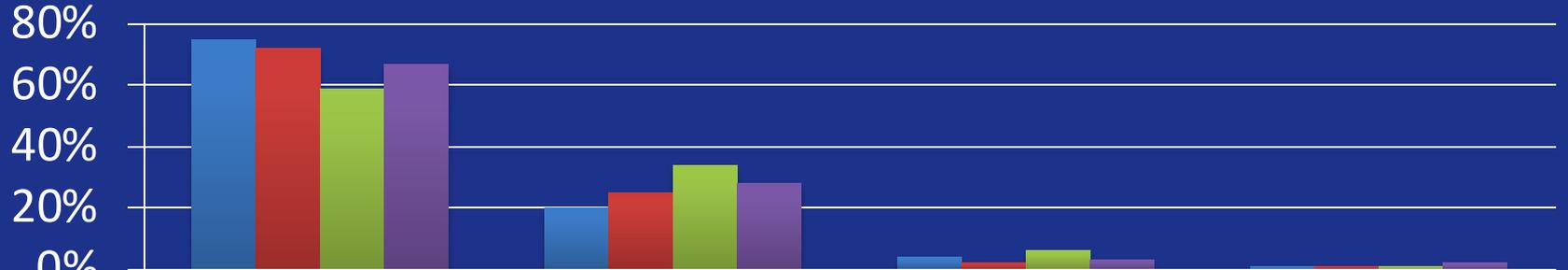
Opinion of Water Service Price





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Rating of Water Service



	Excellent	Good	Fair	Poor
FY13	75%	20%	4%	1%
FY15	72%	25%	2%	1%
FY17	59%	34%	6%	1%
FY19	67%	28%	3%	2%



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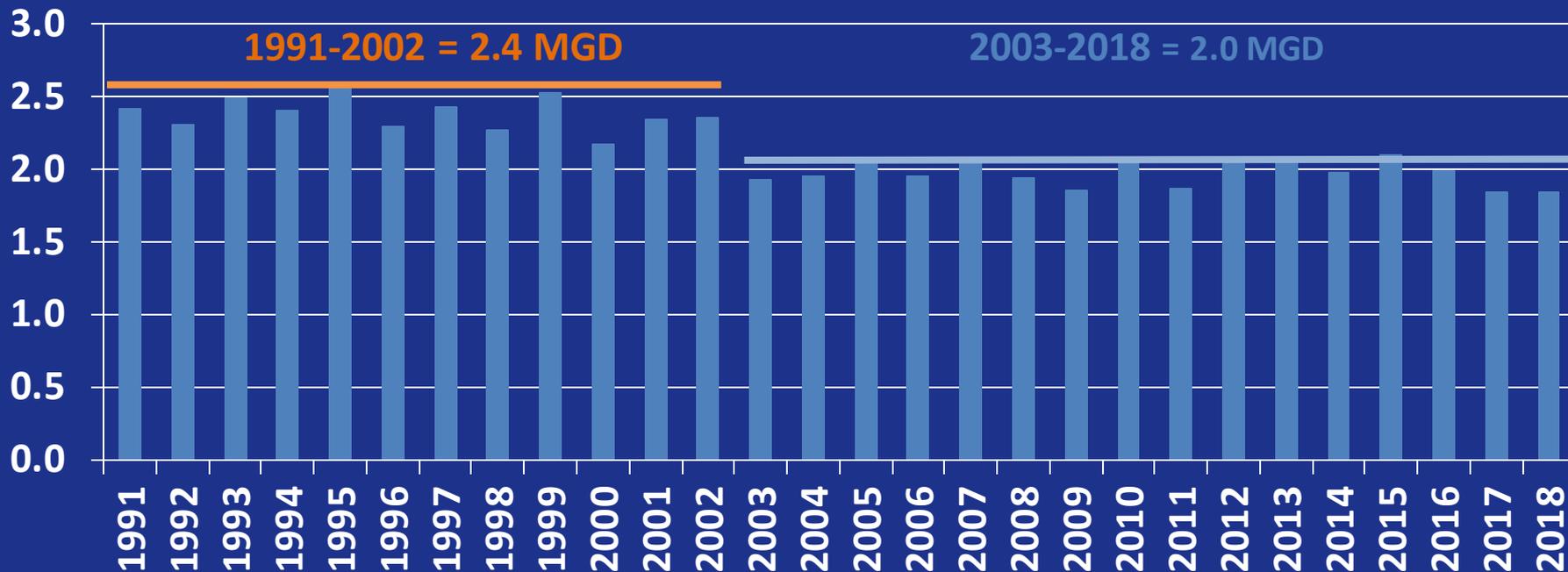
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Average Daily Water Demand



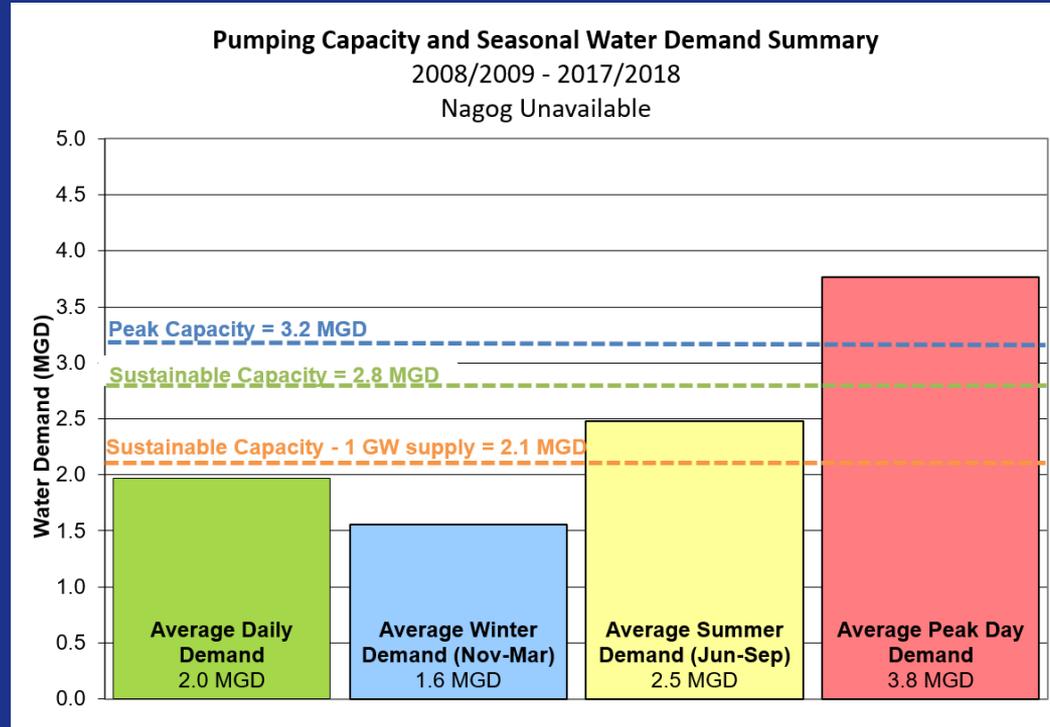


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		Seasonal Water Demand Management Plan			Emergency Response Plan
		Seasonal Water Conservation Advisory	Lawn Watering Restriction	Lawn Watering Ban	Water Supply Emergency
		State of Water Supply Conservation Declaration by Public Works Commission Water Use Restriction By law #4			State of Water Supply Emergency declared by the Department of Environmental Protection under MGL Chapter 21G, §§ 15-17
		Best Management Practices			
Outdoor Water Use Activities	Lawn & Turf Watering In-ground Irrigation Systems & Sprinklers	Recommended ** 1 Day or 1 Inch per week www.concordma.gov/water/day	Restricted ** 1 Day per Week Water Before 9AM or After 3PM www.concordma.gov/water/day	Prohibited **	Prohibited **
	Lawn & Turf Watering Hand-Held Watering & Drip Irrigation Systems	OK	Restricted ** Water Before 9AM or After 3PM Handheld Watering only with an automatic shut off device	Prohibited **	Prohibited **
	Flower Beds, Shrubs, Trees & Veg. Gardens	OK	OK		Prohibited **
	Private Residential Swimming Pools	OK Filling or Topping Off	Restricted ** Topping Off Only		Prohibited ** No Filling or Topping Off
	Washing Vehicle/Boat at home	OK Washing Vehicles at home with an automatic shutoff hose or bucket	Restricted ** Washing Vehicles at home with an automatic shutoff hose or bucket		Prohibited ** Bring to Commercial Car Wash
	Ornamental Fountains	OK	Restricted ** Recirculating Water Only		Prohibited **
	Pressure Washing	OK	Restricted ** Pressure Washing - Spray nozzles should not use more than 3.5 gallons per minute. Note - The washing or cleaning of streets, driveways, sidewalks or other impervious areas is prohibited (except for health, sanitation and medical purposes)		Prohibited **
	* Unless otherwise advised by qualified lawn care specialist.		** Enforcement with fines (\$50 - 1st offense, \$100 - subsequent offenses)		

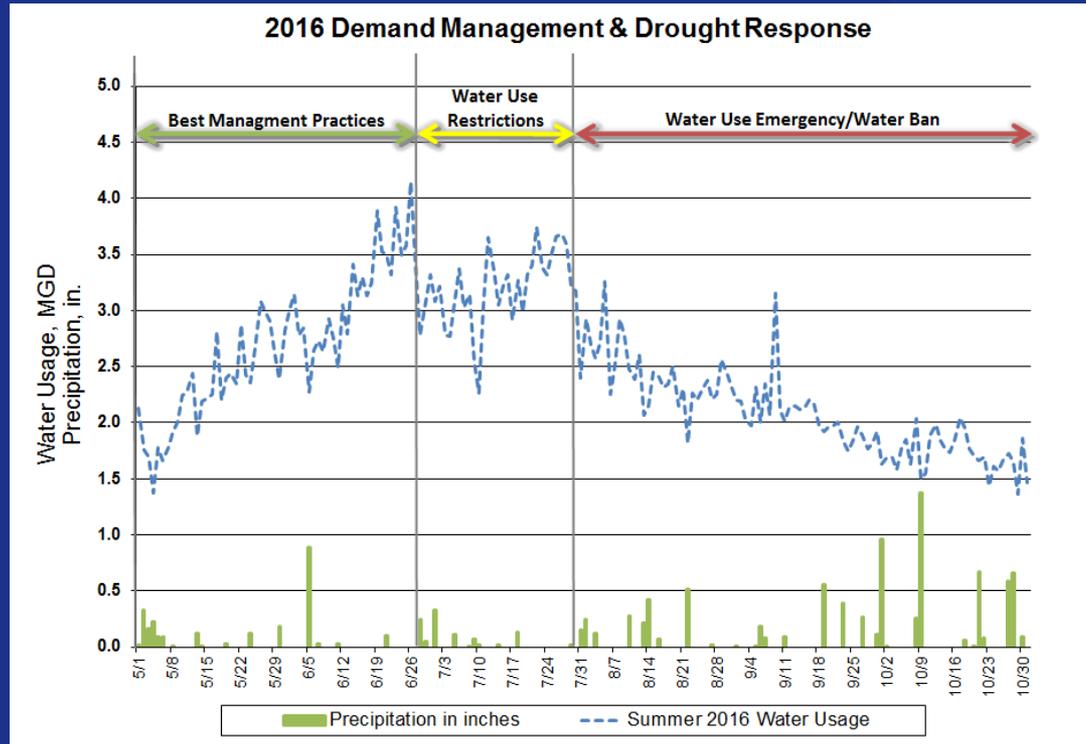


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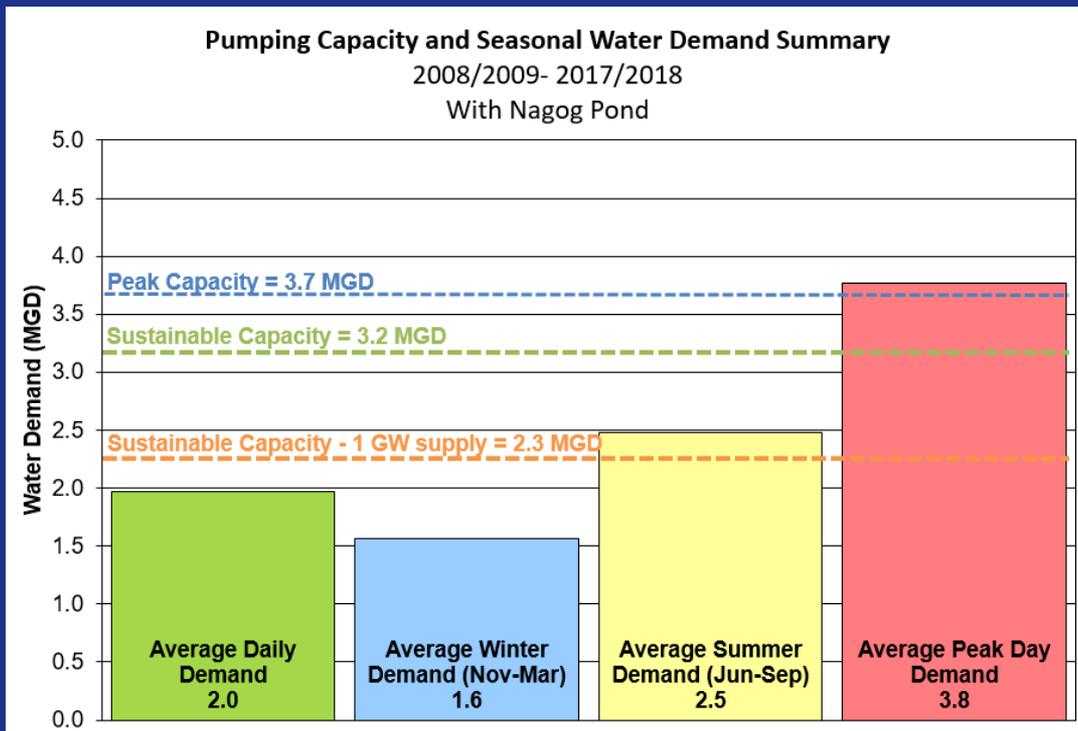


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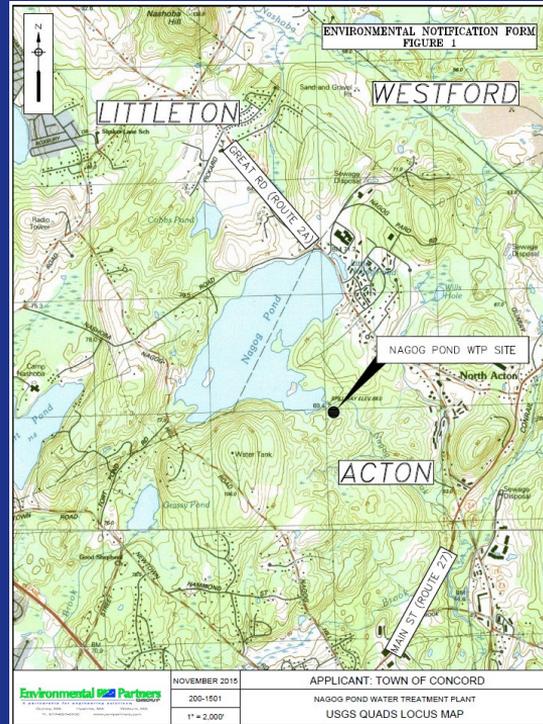


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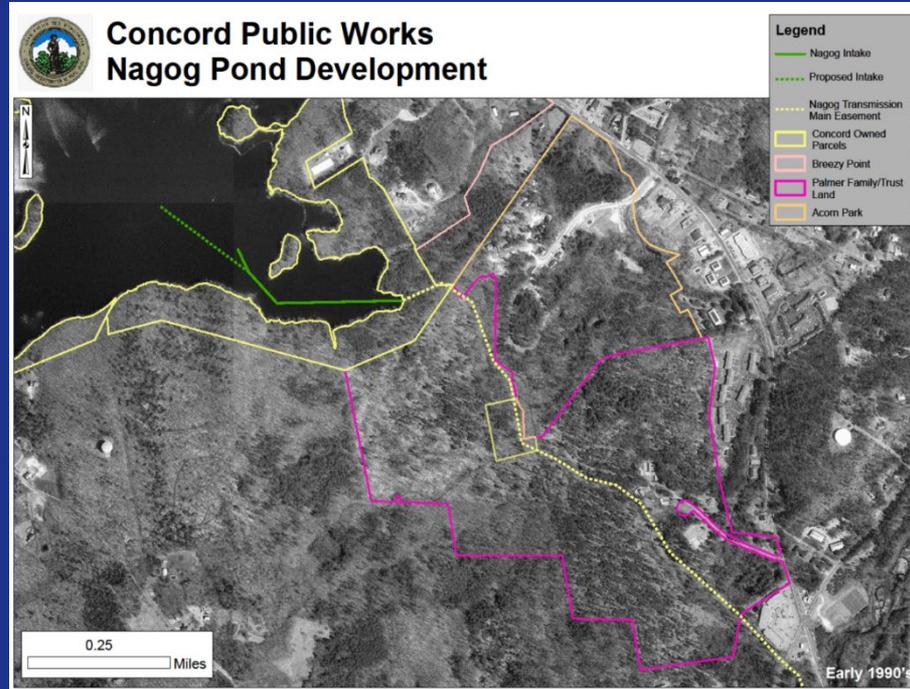


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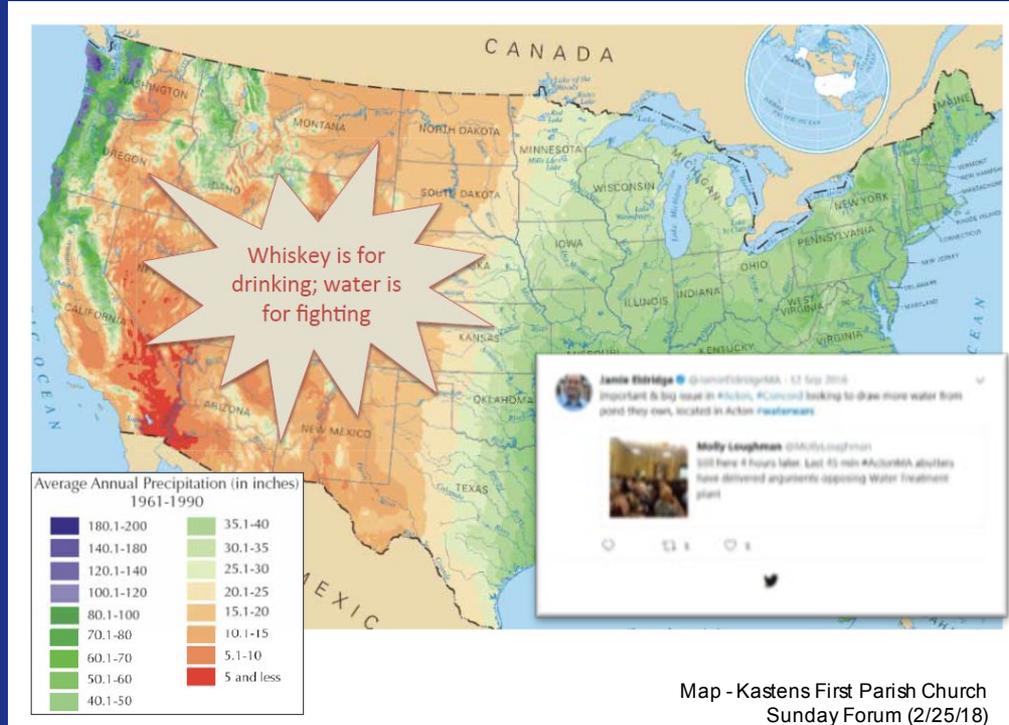
Nagog Pond – Historical Overview

- 1884: Legislative Authority
- 1909: Water Facilities (Constructed)
- 1985: Water Management Act Registration
- 1994: Treatment Facility (Permitting - Disinfection)
- 2003: Palmer Land Swap
- 2007: Quail Ridge Development (Permitting)
- 2015: Treatment Facility (Permitting - Filtration)



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Water System Expenditures



Map - Kastens First Parish Church
Sunday Forum (2/25/18)



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Littleton – Cobb's Well

- 2002** Littleton installs bedrock well on Cobb's land – 1,500 ft from Nagog
- 2003** Littleton issues Notice of Land Taking to Cobb's Trust
- 2010** Littleton seeks support from Concord of to develop bedrock well(s)
- 2011** Concord informs Littleton of concern for potential adverse impact on recharge to Nagog Pond
- 2017** Littleton submits application to MassDEP
- 2017** Concord provides formal comment identifying concern/interest
- 2018** Littleton provides notice of intent in pursue legal and regulatory authority to access water from Nagog Pond



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Water Management Act – Water Withdrawal Permit

- Baseline – 2003 to 2005 actual use plus 5%
- Seasonal Controls
 - Irrigation Restrictions
 - Drought Management Plans
- New/Expanded Use - *“Offsets”*
 - Conservation
 - Water balance: wastewater/stormwater

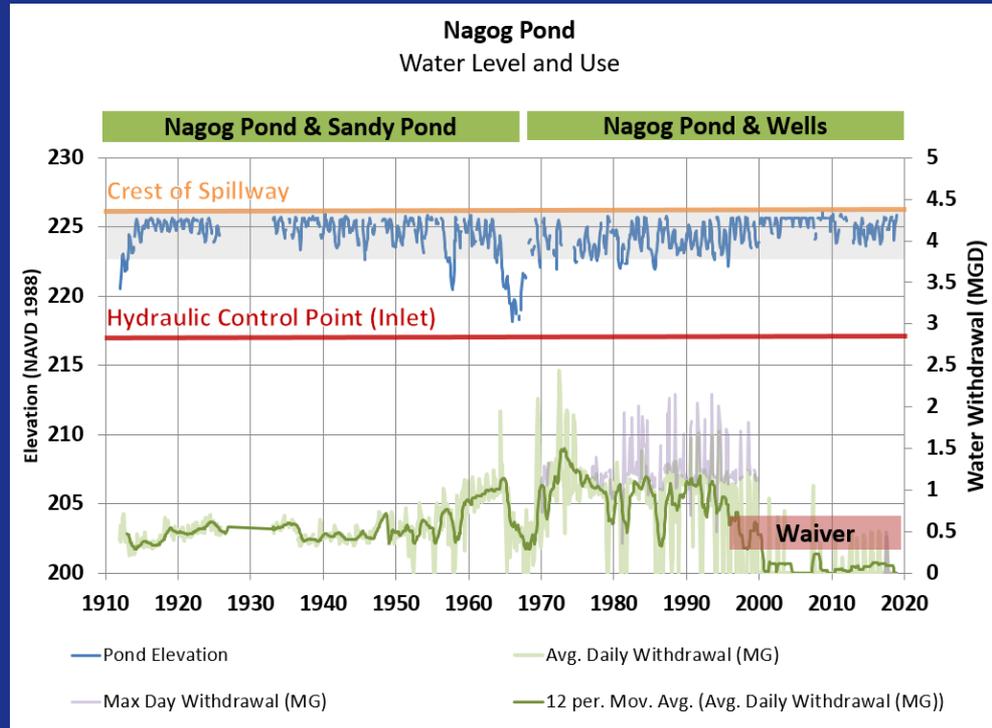


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120					121			
1972 WATER CONSUMPTION (MONTHLY)								
MONTH	NAGOG	DUGAN	CARGILL	DEACONESS	3RD DIVISION	WHITE POND	MONTH TOTAL	AVERAGE
JANUARY	42,796,000	11,543,000	5,933,000	0	0	0	60,272,000	1,944,000
FEBRUARY	25,179,000	12,019,000	0	20,385,000	0	0	57,583,000	1,476,000
MARCH	27,738,000	18,722,000	0	30,641,000	0	0	77,101,000	2,487,000
APRIL	25,939,000	5,484,000	0	27,495,000	0	0	58,918,000	1,964,000
MAY	53,172,000	4,333,000	0	3,800,000	0	0	61,305,000	1,976,000
JUNE	64,310,000	522,000	0	0	0	0	64,832,000	2,161,000
JULY	75,561,000	0	0	717,000	0	0	76,278,000	2,460,000
AUGUST	69,450,000	0	0	3,096,000	0	0	72,546,000	2,340,000
SEPTEMBER	48,162,000	0	0	1,478,000	12,080,000	0	61,720,000	2,057,000
OCTOBER	37,908,000	4,117,000	0	0	15,479,000	0	57,504,000	1,854,000
NOVEMBER	34,107,000	4,500,000	7,099,000	9,271,000	4,637,000	406,000	60,020,000	2,001,000
DECEMBER	36,520,000	5,500,000	2,711,000	0	0	14,503,000	59,234,000	1,911,000
TOTAL	540,842,000 70%	66,740,000 9%	15,743,000 2%	96,883,000 13%	32,196,000 4%	14,909,000 2%	761,313,000	2,096,000



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Nagog Withdrawal

