Stratham Source Water Protection Plan

Written by: Rockingham Planning Commission
with assistance from the Town of Stratham
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SECTION 1—INTRODUCTION

1.1 What is source water and source water protection?

Source water is any surface water body or groundwater source that water is withdrawn from by a public water system for the purpose of supplying drinking water. Source water protection is a voluntary effort that a community can implement to help prevent drinking water contamination and other risks to drinking water supplies. Source water protection plans provide information about drinking water sources in a community and potential threats to those sources, as well as tools and recommendations to address the threats.

1.2 Why Protect Water Quality?

An adequate supply of clean drinking water is critical to so many aspects of our lives. Communities depend on clean drinking water to protect and enhance public health, environmental integrity, economic development, and quality of life. The impacts of Climate Change are forecast to place additional stresses on water quality and supply in the years ahead.

Public Health Benefits

Source water protection is the first line of defense for safeguarding public health. All residential property owners in Stratham rely on private wells for water needs, making the health and viability of the Town's ground water resources an especially pressing concern. Contaminated drinking water can force a public or community water system to shut down. Source water protection helps to lessen the risk of contamination by addressing problems before they occur rather than only dealing with the consequences. Furthermore, treatment alone cannot always successfully remove all contaminants. Source water protection can also help to reduce the use of chemicals needed to treat drinking water and improve public perception of drinking water safety.

Ecosystem and Environmental Benefits

Source water protection provides several environmental and ecosystem benefits. Our natural environment helps to capture, infiltrate, store, deliver, and filter water. A community with intact aquatic, riparian, floodplain, and terrestrial habitats will benefit from enhanced groundwater replenishment and dry season stream flows, flood control, and water pollution removal. These natural services support the infrastructure and treatment processes conducted by the water utility and help to ensure safe and adequate drinking water supplies. Intact aquatic and upland habitats also provide enhanced biodiversity, open spaces, and healthier fish and wildlife populations.

Financial Benefits

A sound source water protection program can be one of the most cost-effective methods for maintaining, safeguarding, and improving source water and drinking water quality and quantity. Keeping water clean at the source is less costly than treating contaminated water because it requires fewer chemicals and less energy to reach safe standards. Protecting source water also helps avoid expenses associated with developing new water sources or replacing systems if contamination occurs.

Quality of Life Benefits

The benefits of source water protection are far reaching. Intact ecosystems, for example, provide open spaces for people to recreate, enhance quality of life, improve air quality, and can increase property values. There are social benefits to a community from collaboration and partnership-building among local government, citizens, environmental groups, and industry around source water protection. A sound source water protection program can also result in improved preparedness and response capacity for emergency events.

SECTION 2—Water Resources in Stratham

2.1 Overview of Water Resources in Stratham

Stratham lies within the Exeter-Squamscott River and the Winnicut River watersheds. The Exeter-Squamscott River is designated under the New Hampshire Rivers Management and Protection Program (RSA 483) for its outstanding natural and cultural characteristics and value as a community asset (NH Dept. of Environmental Services, 2008).

Stratham has 45 water systems, serving populations ranging from 705 to 25. Each of these water systems sources its water from groundwater (Source Type = G) in bedrock wells (Source Description = BRW). The systems include a mix of community water systems; transient, non-community systems; and non-transient, non-community systems.

- **Community Water System (C)** is a public water system which has a potential to serve at least 15 residential service connections on a year-round basis or serves at least 25 residents on a year-round basis. Most municipal and private water systems qualify as community water systems.
- **Transient, Non-Community System (N)** is a public water system that is not a community water system and serves at least 25 persons at least 60 days out of the year, yet by its characteristics, does not meet the definition of a non-transient non-community water system. Restaurants and parks can qualify as transient, non-community water systems.
- **Non-Transient, Non-Community System (P)** is a public water system that is not a community water system and regularly serves at least 25 of the same persons at least six months out of the year. Schools, camps and large businesses can qualify as non-transient, non-community water systems.

Water Systems in Stratham

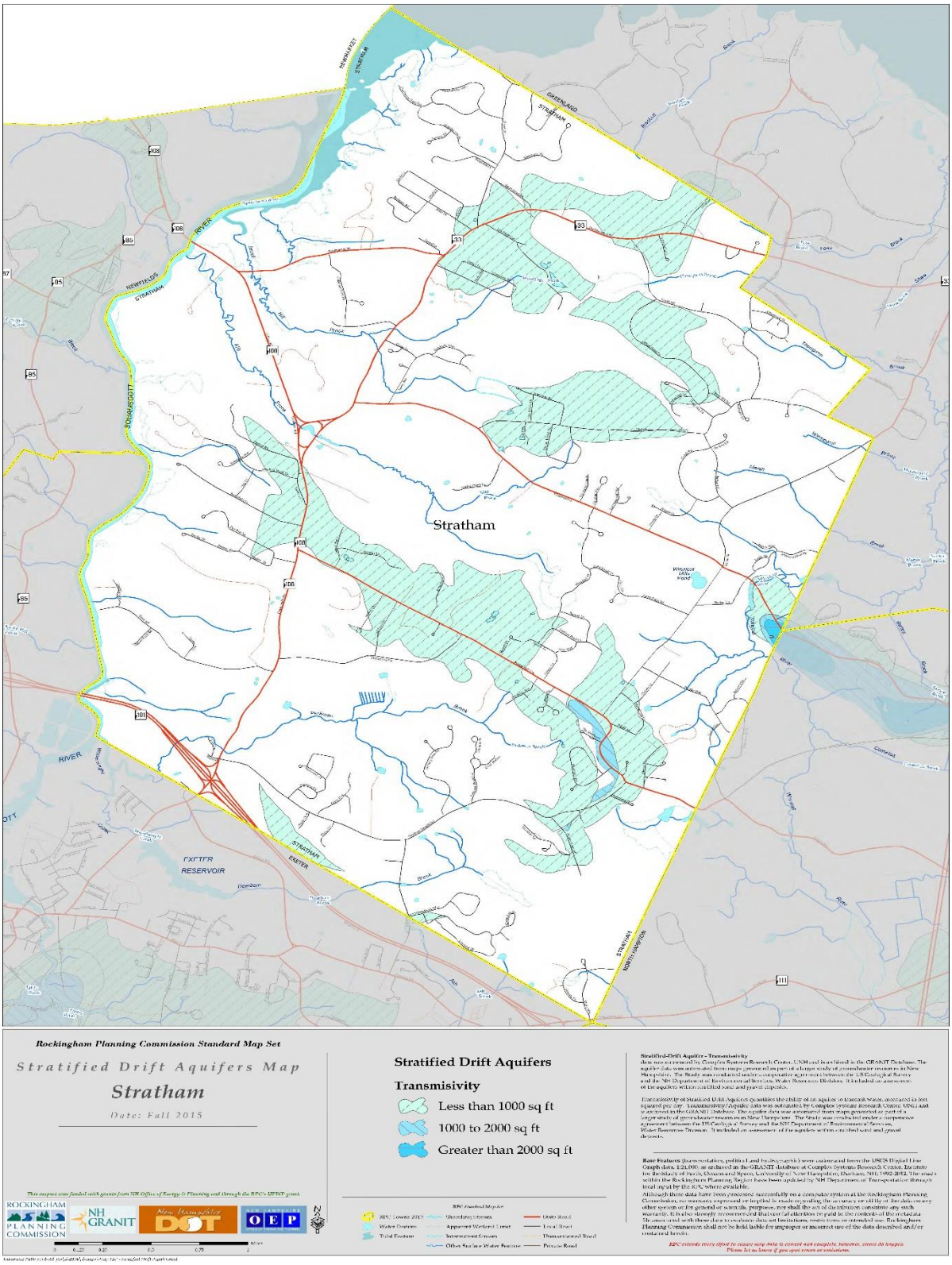
EPA ID #	Source #	Water System	Population Served	System Type	Source Type	Source Description
2235050	1, 2	STRATHAM MEMORIAL SCH	705	P	G	BRW
2238060	1	STRATHAM PLZ/MARKET BASKET	410	P	G	BRW
2238090	1	STRATHAM IRVING/PORTSMOUTH AVE	400	N	G	BRW
2235060	1	CORNERSTONE SCHOOL	210	P	G	BRW
2232070	101, 102	MONTROSE CONDOS	210	C	G	BRW
2238070	1	STRATHAM IRVING/STRATHAM HTS	200	N	G	BRW
2232030	1, 2	SALT RIVER CONDOS	195	C	G	BRW
2232020	1, 3	THORNHILL CONDOS	175	C	G	BRW
2232010	1	GLENGARRY CONDOS	171	C	G	BRW
2232200	1, 2	CHISHOLM FARM	168	C	G	BRW
2232160	1, 2	BURNHAVEN	150	C	G	BRW
2237030	1	GOLF CLUB OF NE/CLUBHOUSE	150	N	G	BRW
2232050	1, 2, 3	STRATHAM GREEN CONDOS	150	C	G	BRW
2232040	1, 2	PENINSULA AT WINDING BROOK	128	C	G	BRW
2232110	1, 2	TURNBERRY	115	C	G	BRW
2232190	1, 2	VINEYARDS	111	C	G	BRW
2232060	1	BALMORAL CONDOS	105	C	G	BRW
2236070	1, 2	NP STRATHAM	100	P	G	BRW
2238030	1	SWEET DREAMS BAKERY	100	N	G	BRW
2236090	2	RCN CONDOS	75	P	G	BRW
2232080	1, 2	PHEASANT RUN CONDOS	70	C	G	BRW
2232130	1, 2	MUIRFIELD CLUSTER	69	C	G	BRW
2236140	1, 2	STRATHAM CROSSING 7621	56	P	G	BRW
2232140	1, 2	JEWETT HILL	55	C	G	BRW
2236120	1	MILLBROOK OFFICE PARK	55	P	G	BRW
2239010	1	STRATHAM COMMUNITY CHURCH	55	P	G	BRW
2235010	1	ACORN SCH	54	P	G	BRW
2236170	1	LINDT AND SPRUNGLI USA/BLDG D	50	P	G	BRW

2236130	2	STRATHAM CENTRAL CONDOS	50	P	G	BRW
2236050	1	STRATHAM PLAZA	50	P	G	BRW
2236150	1	BMW OF STRATHAM	49	P	G	BRW
2232150	1, 2	ABERDEEN/WEST	46	C	G	BRW
2236100	1	PIPERS LANDING	45	P	G	BRW
2239040	1	AUTOFAIR NISSAN	40	N	G	BRW
2236010	1	KINGS HIGHWAY PLAZA	40	P	G	BRW
2232090	1, 2	STRATHAM WOODS	38	C	G	BRW
2232170	1, 2	LAMINGTON HILL	35	C	G	BRW
2236040	1	BELL AND FLYNN	26	P	G	BRW
2236190	1	149/151 PORTSMOUTH AVE	25	P	G	BRW
2239050	1	EXETER SUBARU	25	N	G	BRW
2236180	1	LINDT AND SPRUNGLI USA/BLDG E	25	P	G	BRW
2237010	1, 2	STRATHAM HILL PARK	25	N	G	BRW
2235020	1	STRATHAM MUNICIPAL CENTER	25	N	G	BRW

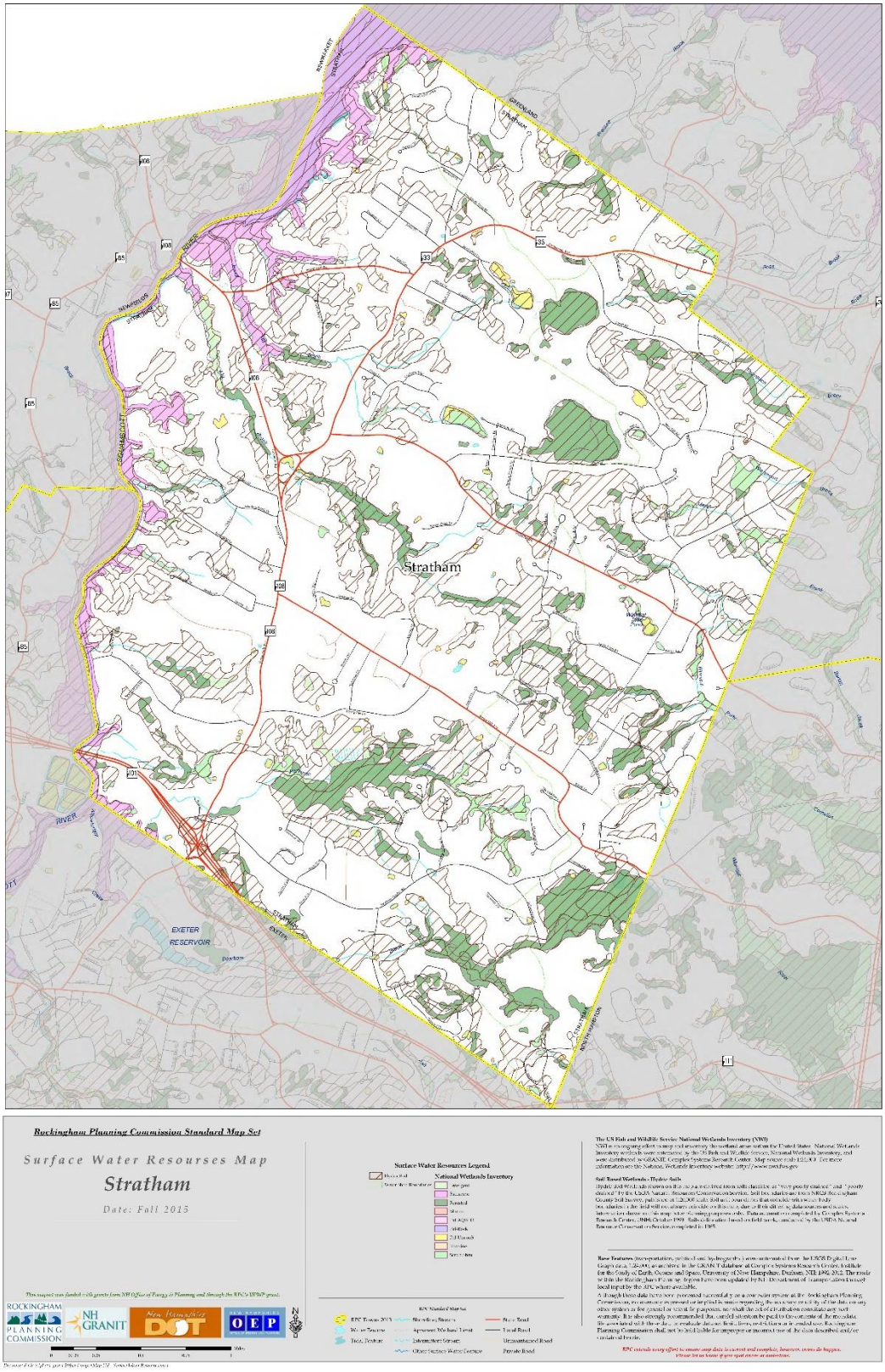
Source: US Environmental Protection Agency

2.2 Maps

Stratified Drift Aquifer



Surface Water Resources



SECTION 3 –STATUS OF DRINKING WATER PROTECTIONS IN STRATHAM

3.1 Impervious Surface Cover

Land is considered impervious when it is covered by material that impedes the infiltration of water into soil. Common examples of impervious surfaces are buildings, pavement, concrete, and severely compacted soils. There is 9.2% impervious surface cover within the Rockingham Planning Commission (RPC) region and 8.6% impervious surface cover within the Town of Stratham.

Impervious surfaces can result in increased stormwater runoff, sedimentation, and pollutant loads, which in turn negatively impact water quality. According to the NOAA Office for Coastal Management, water quality in sensitive streams can be impacted by 5-10% impervious surface cover. Within the RPC region, 47.9% of waterbodies with documented water quality problems are related to the pollutants commonly found in stormwater. An additional 42.2% of waterbodies have problems related to an intermingling of stormwater and other types of pollutant sources. The general reason the RPC region has a different ratio from the overall of water pollution caused by stormwater or intermingled stormwater and other pollutants is that the RPC region is generally more developed, with more sources of water pollution.

Water Pollution Caused by Stormwater in the RPC region and the state

Sources of Pollution for Surface Waters Not Meeting State Water Quality Standards	**Stormwater**	**Intermingling of Stormwater and Other Pollutants**	**Other Pollutants**
State	76.7%	16.7%	6.5%
RPC Region	47.9%	42.2%	9.9%

Source: NH DES

In its 2019 *Regional Drinking Water Protection Assessment and Vulnerability Reports,* RPC evaluated the vulnerabilities to all public water systems within the region as part of the Regional Drinking Water Assessment and Education Project. The objective was to review existing local protections in the region and assess gaps in those protections for current and future water supplies. The report documents the percentage of impervious land cover within each wellhead protection area (WHPA). Impervious land cover ranges from 32.7% in Stratham Plaza/Market Basket water system WHPA to 0% in a number of WHPAs.

Impervious Land Cover in Wellhead Protection Areas

EPA ID #	Source #	Water System	Population Served	System Type	Source Type	Impervious land cover % in WHPA
2238060	1	STRATHAM PLZ/MARKET BASKET	410	P	G	32.7
2236090	2	RCN CONDOS	75	P	G	32.1
2236070	2	NP STRATHAM	100	P	G	30.2
2236070	1	NP STRATHAM	100	P	G	30.1
2236010	1	KINGS HIGHWAY PLAZA	40	P	G	28.7
2236180	1	LINDT AND SPRUNGLI USA/BLDG E	25	P	G	25.3
2236170	1	LINDT AND SPRUNGLI USA/BLDG D	50	P	G	24.3
2236050	1	STRATHAM PLAZA	50	P	G	24.2
2236150	1	BMW OF STRATHAM	49	P	G	22.4
2236140	1	STRATHAM CROSSING 7621	56	P	G	19.7
2236140	2	STRATHAM CROSSING 7621	56	P	G	19.5
2236100	1	PIPERS LANDING	45	P	G	17.1
2239010	1	STRATHAM COMMUNITY CHURCH	55	P	G	16.3
2236120	1	MILLBROOK OFFICE PARK	55	P	G	15.7
2232010	1	GLENGARRY CONDOS	171	C	G	13.2
2232190	2	VINEYARDS	111	C	G	13.1
2232190	1	VINEYARDS	111	C	G	13.1
2232030	2	SALT RIVER CONDOS	195	C	G	12.8
2232030	1	SALT RIVER CONDOS	195	C	G	12.8
2232040	2	PENINSULA AT WINDING BROOK	128	C	G	12.3
2232040	1	PENINSULA AT WINDING BROOK	128	C	G	12.2
2232070	101	MONTROSE CONDOS	210	C	G	11.9
2232070	102	MONTROSE CONDOS	210	C	G	11.9
2232080	2	PHEASANT RUN CONDOS	70	C	G	11.2
2232080	1	PHEASANT RUN CONDOS	70	C	G	10.9
2236040	1	BELL AND FLYNN	26	P	G	10.7

2232140	2	JEWETT HILL	55	C	G	10.4
2232140	1	JEWETT HILL	55	C	G	10.4
2232050	2	STRATHAM GREEN CONDOS	150	C	G	10.2
2232170	1	LAMINGTON HILL	35	C	G	10.1
2232170	2	LAMINGTON HILL	35	C	G	10
2232050	1	STRATHAM GREEN CONDOS	150	C	G	9.9
2232090	1	STRATHAM WOODS	38	C	G	9.9
2232090	2	STRATHAM WOODS	38	C	G	9.9
2235010	1	ACORN SCH	54	P	G	9.4
2232050	3	STRATHAM GREEN CONDOS	150	C	G	9
2235050	1	STRATHAM MEMORIAL SCH	705	P	G	8.6
2232150	1	ABERDEEN/WEST	46	C	G	8.5
2232150	2	ABERDEEN/WEST	46	C	G	8.5
2235050	2	STRATHAM MEMORIAL SCH	705	P	G	8.4
2232200	2	CHISHOLM FARM	168	C	G	8
2232200	1	CHISHOLM FARM	168	C	G	8
2232110	1	TURNBERRY	115	C	G	7.6
2235060	1	CORNERSTONE SCHOOL	210	P	G	6.8
2232020	1	THORNHILL CONDOS	175	C	G	6.7
2232160	2	BURNHAVEN	150	C	G	6.5
2232160	1	BURNHAVEN	150	C	G	6.5
2232110	2	TURNBERRY	115	C	G	6.5
2232130	2	MUIRFIELD CLUSTER	69	C	G	6.4
2232130	1	MUIRFIELD CLUSTER	69	C	G	6.4
2232020	3	THORNHILL CONDOS	175	C	G	6.3
2232060	1	BALMORAL CONDOS	105	C	G	4.7
2238090	1	STRATHAM IRVING/PORTSMOUTH AVE	400	N	G	0
2238070	1	STRATHAM IRVING/STRATHAM HTS	200	N	G	0
2237030	1	GOLF CLUB OF NE/CLUBHOUSE	150	N	G	0
2238030	1	SWEET DREAMS BAKERY	100	N	G	0

2236130	2	STRATHAM CENTRAL CONDOS	50	P	G	0
2239040	1	AUTOFAIR NISSAN	40	N	G	0
2236190	1	149/151 PORTSMOUTH AVE	25	P	G	0
2239050	1	EXETER SUBARU	25	N	G	0
2237010	1	STRATHAM HILL PARK	25	N	G	0
2237010	2	STRATHAM HILL PARK	25	N	G	0
2235020	1	STRATHAM MUNICIPAL CENTER	25	N	G	0

Source: Regional Drinking Water Protection Assessment and Vulnerability Reports, Rockingham Planning Commission, 2019

3.2 Known and Potential Contaminant Sources

Source water contamination can result from several sources, including landfills, agriculture, mining, underground storage tanks, wastewater, septic tanks, local industry, pesticides, fertilizers, household waste, and livestock or pet waste. Contamination sources may be point sources (a single identifiable source) or non-point sources (widely spread sources of pollution that cannot be linked to a specific point of origin).

Env-Dw 301.17 defines a known contamination source as "a location from which contaminants are known to emanate or to have emanated in the past that degrade groundwater quality." RSA 485-C:7,I defines human activities or operations as potential contamination sources if "the activity or operation poses a reasonable risk that regulated contaminants may be introduced into the environment in such quantities as to degrade the natural groundwater quality." RSA 485-C:7,II identifies the following potential contamination sources:

- Vehicle service and repair shops (including automobile dealerships with service facilities)
- General service and repair shops
- Metalworking shops
- Manufacturing facilities
- Underground and above-ground storage tanks
- Waste and scrap processing and storage
- Transportation corridors
- Septic systems (at commercial and industrial facilities)
- Laboratories and certain professional offices (medical, dental, veterinary)
- Use of agricultural chemicals.
- Salt storage and use
- Snow dumps
- Stormwater infiltration ponds and leaching catch basins.
- Cleaning services
- Food processing plants

- Fueling and maintenance of earth moving equipment
- Concrete, asphalt, and tar manufacture
- Cemeteries
- Hazardous waste facilities

The following sites have been identified as potential sources of contamination in Stratham (source: Rockingham Planning Commission, GIS data, 2019).

Above Ground Storage Tanks

FACILITY	ADDRESS	TOWN	FACILITY TYPE
GILS JEEP EAGLE PEUGEOT	50 PORTSMOUTH AVE	STRATHAM	AUTO DEALERSHIP
FORMER SEACOAST NEWSPAPER	4 WEST RD	STRATHAM	COMMERCIAL
WILLIAM HOLT PROPERTY	123 UNION RD	STRATHAM	CONTRACTOR

Underground Storage Tanks

FACILITY	ADDRESS	TOWN	FACILITY TYPE
NH TECHNICAL COLLEGE	277 PORTSMOUTH AVE	STRATHAM	COMMERCIAL
L A HANNA & SONS INC	313 PORTSMOUTH AVE	STRATHAM	COMMERCIAL
LABONTE SUNOCO	19 PORTSMOUTH AVE	STRATHAM	GAS STATION
KINGS HIGHWAY PLAZA	28 PORTSMOUTH AVE	STRATHAM	COMMERCIAL
STRATHAM ELEMENTARY SCHOOL	39 GIFFORD FARM RD	STRATHAM	LOCAL GOVERNMENT
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	LOCAL GOVERNMENT
SULLIVAN TIRE	33 PORTSMOUTH AVE	STRATHAM	COMMERCIAL
BELL & FLYNN INC	69 BUNKER HILL AVE	STRATHAM	CONTRACTOR
GIBBS OIL CO LTD PARTNERSHIP	9 PORTSMOUTH AVE	STRATHAM	GAS STATION
STRATHAM MOBIL	39 PORTSMOUTH AVE	STRATHAM	GAS STATION
FORMER SEACOAST NEWSPAPER	4 WEST RD	STRATHAM	COMMERCIAL
STRATHAM VILLAGE MARKET	157 PORTSMOUTH AVE	STRATHAM	GAS STATION
STRATHAM MUNICIPAL CENTER	10 BUNKER HILL AVE	STRATHAM	LOCAL GOVERNMENT
DONALDS DOLL AND DEALS/ HEURLBERT TOYOTA	58 & 60 PORTSMOUTH AVE	STRATHAM	COMMERCIAL
STRATHAM CIRCLE K	2 HEIGHTS RD	STRATHAM	GAS STATION
TRICKETT RE TRUST / STRATHAM SHELL	44 PORTSMOUTH AVE	STRATHAM	GAS STATION
GOLF CLUB OF NEW ENGLAND	167 WINNICUTT RD	STRATHAM	COMMERCIAL

SCAMMAN FARM	69 PORTSMOUTH AVE	STRATHAM	RESIDENTIAL OR FARM

Hazardous Waste Generators

FACILITY	ADDRESS	TOWN	GENERATOR TYPE	GENERATOR STATUS
GILS JEEP INC	50 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
SULLIVAN TIRE CO INC	33 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
SHAWS 7621	100 SHAWS LN	STRATHAM	RCRA REGULATED	ACTIVE
HONDA BARN	34 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
VAPOTHERM	100 DOMAIN DR	EXETER	RCRA REGULATED	ACTIVE
ITACONIX CORP	2 MARIN WAY	STRATHAM	RCRA REGULATED	ACTIVE
RITE AID 10301	28 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
SHERWIN WILLIAMS 5445	42 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
CHALPIN JOHN DR D M D	62 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
BMW OF STRATHAM	71 PORTSMOUTH AVE	STRATHAM	STATE REGULATED	ACTIVE
EXETER SUBARU INC	37 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
AUTOZONE 5159	28 PORTSMOUTH AVE	STRATHAM	RCRA REGULATED	ACTIVE
LINDT & SPRUNGLI	1 FINE CHOCOLATE PL	STRATHAM	RCRA REGULATED	ACTIVE

Remediation Sites

FACILITY	ADDRESS	TOWN	PROJECT TYPE
MONTROSE CONDOMINIUMS	HERSEY LANE	STRATHAM	SEPTIC
SQUAMSCOTT ROAD CONDOMINUMS	SQUAMSCOTT ROAD	STRATHAM	SEPTIC

ANTIQUE REPAIR COMPANY	23 PORTSMOUTH AVENUE	STRATHAM	HAZWASTE
ANTIQUE REPAIR COMPANY	23 PORTSMOUTH AVENUE	STRATHAM	UIC
LABONTE SUNOCO	19 PORTSMOUTH AVE	STRATHAM	LUST
KINGS HIGHWAY PLAZA	28 PORTSMOUTH AVE	STRATHAM	LUST
WINNICUT VALLEY ESTATES	UNION RD	STRATHAM	SEPTIC
STRATHAM GREEN CONDOMINIUM	RTE 108	STRATHAM	SEPTIC
STRATHAM GREEN CONDOMINIUM	RTE 108	STRATHAM	ETHER
GILS JEEP EAGLE PEUGEOT	50 PORTSMOUTH AVE	STRATHAM	HOLDTANK
SAEF LINCOLN MERC/DBA GOSS LINC-MERC	ROUTE 101	STRATHAM	LUST
LABBES BEAUTY SALON	255 PORTSMOUTH AVENUE	STRATHAM	UIC
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	LUST
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	HOLDTANK
SULLIVAN TIRE	33 PORTSMOUTH AVE	STRATHAM	HOLDTANK
GIBBS OIL CO LTD PARTNERSHIP	9 PORTSMOUTH AVE	STRATHAM	LUST
STRATHAM MOBIL	39 PORTSMOUTH AVE	STRATHAM	LUST
SHELL SERVICE STATION AND CARWASH	12 PORTSMOUTH AVE	STRATHAM	HOLDTANK
SHELL SERVICE STATION AND CARWASH	12 PORTSMOUTH AVE	STRATHAM	UIC
BURGER KING FACILITY	KINGS HIGHWAY PLAZA	STRATHAM	SITEEVAL
MOELLERING RESIDENCE-THE MEADOWS	#5 THE MEADOWS (OFF BUNK HILL)	STRATHAM	OPUF
MAJESTIC MEADOWS	38 FRYING PAN AVE	STRATHAM	LUST
STRATHAM TIRE CO INC	17 PORTSMOUTH AVE	STRATHAM	UIC
FORMER SEACOAST NEWSPAPER	4 WEST RD	STRATHAM	UIC
FORMER SEACOAST NEWSPAPER	4 WEST RD	STRATHAM	ETHER
STRATHAM VILLAGE MARKET	157 PORTSMOUTH AVE	STRATHAM	LUST
STRATHAM VILLAGE MARKET	157 PORTSMOUTH AVE	STRATHAM	UIC
STRATHAM FIRE DEPT	4 WINNICUTT RD	STRATHAM	UIC
STRATHAM EURO CLEANERS	27 PORTSMOUTH AVE	STRATHAM	UIC
EXETER SUBARU	37 PORTSMOUTH AVE	STRATHAM	HOLDTANK
DEMOULAS / MARKET BASKET	ROUTE 101	STRATHAM	UIC
DEMOULAS / MARKET BASKET	ROUTE 101	STRATHAM	ETHER
16 SQUAMSCOTT ROAD	16 SQUAMSCOTT ROAD	NEWFIELDS	
JOSEPH RICHARDS	13 COLLEGE ROAD	STRATHAM	OPUF
PATRICA OLSEN	28 STRATHAM HEIGHTS ROAD	STRATHAM	OPUF
EDWARD RAWSON	5 COLLEGE ROAD	STRATHAM	OPUF

NH SOCIETY FOR THE PREVENTION OF CRUELTY	104 PORTSMOUTH AVE	STRATHAM	UIC
SQUAMSCOTT RIVER	CHAPMANS LANDING	STRATHAM	LUST
WAYNE KENISON	32 BUNKER HILL AVENUE	STRATHAM	OPUF
WIGGIN FARM/	CHRISTIE LANE	STRATHAM	UIC
RACHEL RONDEAU	4A JASON DRIVE	STRATHAM	OPUF
DONALDS DOLL AND DEALS/ HEURLBERT TOYOTA	58 & 60 PORTSMOUTH AVE	STRATHAM	ETHER
COMB-O'S SALON / LINDA COMEAU	4 LONG HILL ROAD	STRATHAM	UIC
EXETER VETERINARY CLINIC	10 HEIGHTS STREET	STRATHAM	UIC
CARR PROPERTY	18 UNION RD	STRATHAM	UIC
TRICKETT RE TRUST / STRATHAM SHELL	44 PORTSMOUTH AVE	STRATHAM	SEPTIC
HONDA BARN/ SEACOAST IMPORTED AUTO	34 PORTSMOUTH AVE	STRATHAM	UIC
SEWALL FARMS	BUNKER HILL AVE	STRATHAM	SEPTIC
FLAGG BEAUTY SALON	98 UNION RD	STRATHAM	UIC
WIGGINS PROPERTY	BUNKER HILL ROAD	STRATHAM	OPUF
STRATHAM CENTRAL CONDOS	157 PORTSMOUTH AVENUE	STRATHAM	ETHER
BMW OF STRATHAM	71 PORTSMOUTH AVE	STRATHAM	ETHER
BMW OF STRATHAM	71 PORTSMOUTH AVE	STRATHAM	HOLDTANK
ABERDEEN WEST	LOVELL ROAD	STRATHAM	UIC
PHEASANT RUN CONDO ASSOCIATION	20 PHEASANT RUN LANE	STRATHAM	WTW
THE VINEYARD'S OF STRATHAM	ACADEMIC WAY	STRATHAM	UIC
THE CORNERSTONE SCHOOL	146 HIGH STREET	STRATHAM	ETHER
WILLIAM HOLT PROPERTY	123 UNION RD	STRATHAM	LAST
WINGATE SALON AND SPA	139 PORTSMOUTH AVENUE	STRATHAM	UIC
MONTROS CONDO ASSOC	HERSEY RD	STRATHAM	WTW
SOUCY RESIDENCE	323 PORTSMOUTH AVE	STRATHAM	OPUF
SANDY POINT DISCOVERY CTR	DEPOT RD	GREENFIELD	UIC
BUTTERFIELD RESIDENCE	2 BUTTERFIELD LANE	STRATHAM	OPUF
100 PORTSMOUTH AVENUE LLC	100 PORTSMOUTH AVE	STRATHAM	LUST
BURNHAVEN COMM WATER SYS	ALDERWOOD DRIVE	STRATHAM	WTW
LEDGE VIEW PROPERTY	42 CRESTVIEW TERRACE	STRATHAM	OPUF
93 WILLOWBROOK AVE	93 WILLOWBROOK AVE	STRATHAM	OPUF
TURNER RESIDENCE	1 ROLLINS FARM RD	STRATHAM	OPUF
QUINN PROPERTY	41 SQUAMSCOTT ROAD	STRATHAM	
MIA'S BEAUTY STUDIO	70 PORTSMOUTH AVE	STRATHAM	UIC
STRATHAM LANDFILL	UNION ROAD	STRATHAM	LAND/UNLN
STRATHAM GREEN CONDOMINIUM	RTE 108	STRATHAM	SEPTIC
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	LUST

MONTROSE CONDOMINIUMS	HERSEY LANE	STRATHAM	SEPTIC
SQUAMSCOTT ROAD CONDOMINUMS	SQUAMSCOTT ROAD	STRATHAM	SEPTIC
STRATHAM GREEN CONDOMINIUM	RTE 108	STRATHAM	ETHER
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	HOLDTANK
STRATHAM HIGHWAY GARAGE	70 BUNKER HILL AVE	STRATHAM	LUST
TRICKETT REALTY TRUST / SHELL	44-48 PORTSMOUTH AVE	STRATHAM	SEPTIC

In its 2019 *Regional Drinking Water Protection Assessment and Vulnerability Reports,* RPC evaluated the susceptibility of water systems to know and potential sources of contamination. The results for water systems in Stratham appear in the table below. Nineteen systems ranked high for known contaminations sources and 3 ranked high for potential contamination sources.

- **KCSs:** Known contamination sources in the vicinity of the source. This includes any site known to DES where contaminants are known or very likely to have been released to the ground, and where remediation is not complete.
    - **L** = none present in the WHPA (for groundwater sources) or in the HAC (for surface water sources).
    - **M** (for community and non-transient systems) = one or more KCSs in the WHPA or HAC but not within 1,000 ft of the well or intake. There is no M ranking for transient systems.
    - **H** = one or more KCSs within the WHPA or HAC within 1,000 ft of the well or intake.
    - *Source: NH Department of Environmental Services OneStop 2019*
- **PCSs:** Potential contamination sources in the vicinity of the source. This includes any site known to DES where contaminants are known or very likely to be used in significant quantities, but where there are no known releases to the ground.
    - **L** (for community and non-transient systems) = no PCSs within 1,000 ft of the well in the WHPA (for groundwater sources) or none present in the HAC (for surface water sources).
    - **L** (for transient systems) = none present in the WHPA.
    - **M** (for groundwater sources serving community and non-transient systems) = 10 or fewer PCSs within 1,000 ft of the well in the WHPA. M (for surface water sources) = one or more PCSs in the HAC but not within Last update: 1,000 ft of the intake. There is no M ranking for transient systems.
    - **H** (for groundwater sources serving community and non-transient systems) = more than 10 PCSs within 1,000 ft of the well in the WHPA.
    - **H** (for transient sources) = one or more PCSs in the WHPA. H (for surface water sources) = one or more within 1,000 ft of the intake in the HAC.

      Source: NH Department of Environmental Services OneStop 2019

Susceptibility Ranking for Known and Potential Contaminant Sources

EPA ID #	Source #	Water System	Population Served	System Type	Source Type	Source Description	Rank for KCS	Rank for PCS
2238060	1	STRATHAM PLZ/MARKET BASKET	410	P	G	BRW	H	M
2235060	1	CORNERSTONE SCHOOL	210	P	G	BRW	H	L
2232070	101	MONTROSE CONDOS	210	C	G	BRW	H	L
2232070	102	MONTROSE CONDOS	210	C	G	BRW	H	L
2232010	1	GLENGARRY CONDOS	171	C	G	BRW	H	L
2232160	2	BURNHAVEN	150	C	G	BRW	H	L
2232160	1	BURNHAVEN	150	C	G	BRW	H	L
2232050	2	STRATHAM GREEN CONDOS	150	C	G	BRW	H	M
2232050	1	STRATHAM GREEN CONDOS	150	C	G	BRW	H	M
2232050	3	STRATHAM GREEN CONDOS	150	C	G	BRW	H	M
2232110	1	TURNBERRY	115	C	G	BRW	H	L
2232110	2	TURNBERRY	115	C	G	BRW	H	L
2232190	2	VINEYARDS	111	C	G	BRW	H	M
2232190	1	VINEYARDS	111	C	G	BRW	H	M
2236070	2	NP STRATHAM	100	P	G	BRW	H	M
2236070	1	NP STRATHAM	100	P	G	BRW	H	M
2236090	2	RCN CONDOS	75	P	G	BRW	H	M
2232080	2	PHEASANT RUN CONDOS	70	C	G	BRW	H	L
2232080	1	PHEASANT RUN CONDOS	70	C	G	BRW	H	L
2236140	1	STRATHAM CROSSING 7621	56	P	G	BRW	H	M
2236140	2	STRATHAM CROSSING 7621	56	P	G	BRW	H	M
2239010	1	STRATHAM COMMUNITY CHURCH	55	P	G	BRW	H	L
2236050	1	STRATHAM PLAZA	50	P	G	BRW	H	L
2236150	1	BMW OF STRATHAM	49	P	G	BRW	H	L
2232150	1	ABERDEEN/WEST	46	C	G	BRW	H	L
2232150	2	ABERDEEN/WEST	46	C	G	BRW	H	L
2236100	1	PIPERS LANDING	45	P	G	BRW	H	M
2236010	1	KINGS HIGHWAY PLAZA	40	P	G	BRW	H	M
2236040	1	BELL AND FLYNN	26	P	G	BRW	H	L
2232020	1	THORNHILL CONDOS	175	C	G	BRW	M	L
2232020	3	THORNHILL CONDOS	175	C	G	BRW	M	L
2232200	2	CHISHOLM FARM	168	C	G	BRW	M	M
2232200	1	CHISHOLM FARM	168	C	G	BRW	M	M
2232060	1	BALMORAL CONDOS	105	C	G	BRW	M	L

2236120	1	MILLBROOK OFFICE PARK	55	P	G	BRW	M	L
2236170	1	LINDT AND SPRUNGLI USA/BLDG D	50	P	G	BRW	M	L
2235050	1	STRATHAM MEMORIAL SCH	705	P	G	BRW	L	L
2235050	2	STRATHAM MEMORIAL SCH	705	P	G	BRW	L	L
2238090	1	STRATHAM IRVING/PORTSMOUTH AVE	400	N	G	BRW	L	H
2238070	1	STRATHAM IRVING/STRATHAM HTS	200	N	G	BRW	L	H
2232030	2	SALT RIVER CONDOS	195	C	G	BRW	L	L
2232030	1	SALT RIVER CONDOS	195	C	G	BRW	L	L
2237030	1	GOLF CLUB OF NE/CLUBHOUSE	150	N	G	BRW	L	L
2232040	2	PENINSULA AT WINDING BROOK	128	C	G	BRW	L	L
2232040	1	PENINSULA AT WINDING BROOK	128	C	G	BRW	L	L
2238030	1	SWEET DREAMS BAKERY	100	N	G	BRW	L	L
2232130	2	MUIRFIELD CLUSTER	69	C	G	BRW	L	L
2232130	1	MUIRFIELD CLUSTER	69	C	G	BRW	L	L
2232140	2	JEWETT HILL	55	C	G	BRW	L	L
2232140	1	JEWETT HILL	55	C	G	BRW	L	L
2235010	1	ACORN SCH	54	P	G	BRW	L	M
2236130	2	STRATHAM CENTRAL CONDOS	50	P	G	BRW	L	M
2239040	1	AUTOFAIR NISSAN	40	N	G	BRW	L	H
2232090	1	STRATHAM WOODS	38	C	G	BRW	L	L
2232090	2	STRATHAM WOODS	38	C	G	BRW	L	L
2232170	1	LAMINGTON HILL	35	C	G	BRW	L	L
2232170	2	LAMINGTON HILL	35	C	G	BRW	L	L
2236190	1	149/151 PORTSMOUTH AVE	25	P	G	BRW	L	M
2239050	1	EXETER SUBARU	25	N	G	BRW	L	H
2236180	1	LINDT AND SPRUNGLI USA/BLDG E	25	P	G	BRW	L	L
2237010	1	STRATHAM HILL PARK	25	N	G	BRW	L	L
2237010	2	STRATHAM HILL PARK	25	N	G	BRW	L	L
2235020	1	STRATHAM MUNICIPAL CENTER	25	N	G	BRW	L	L

Source: Regional Drinking Water Protection Assessment and Vulnerability Reports, Rockingham Planning Commission, 2019

3.3 Confirmed Contaminant Detection

The NH Department of Environmental Services requires routine monitoring and sampling of all public water systems for contaminants. This data is publicly available through the Department's OneStop Data platform: https://www.des.nh.gov/onestop-navigation. Of Stratham's 45 public water systems, only 4 have no recorded violations: Lindt & Sprungli USA/Bldg D, RCN Condos, Stratham Memorial School, and Stratham Municipal Center. The Stratham Plaza/Market Basket is the only water system in Stratham to record a violation for Per-and Polyfluoroalkyl Substances (PFAS). A complete list of violations can be found in Appendix 1 of this report.

3.4 Water Restrictions due to Drought

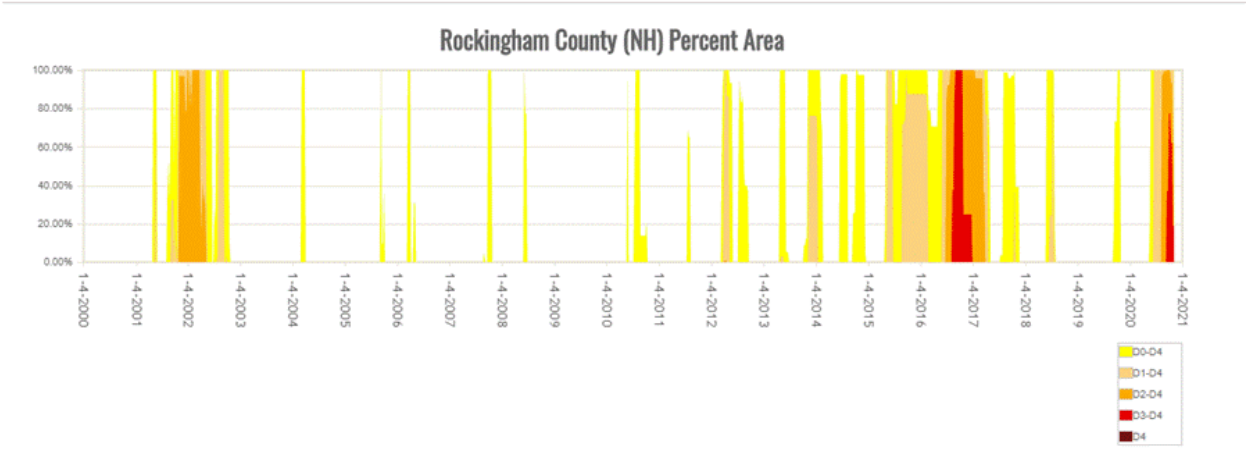
What is Drought?

According to the NH Dept. of Environmental Services, drought occurs when a region experiences below-average precipitation over an extended period of time, resulting in low stream flows, surface water, and groundwater levels. The National Oceanic and Atmospheric Administration (NOAA) identifies four types of drought:

1. Meteorologic Drought—occurs when dry weather patterns dominate an area, resulting in lack of precipitation.
2. Hydrological Drought—occurs when low water supplies become evident, particularly in streams, reservoirs, and groundwater levels. Hydrological drought usually occurs after many months of meteorological drought.
3. Agricultural Drought—occurs when crops become impacted by drought conditions.
4. Socioeconomic Drought—occurs when the supply and demand of commodities are impacted by drought conditions.

History of Drought in NH

New Hampshire has been under several drought warnings. The most severe drought conditions occurred between 1960 and 1969; the event had a greater than 25-year recurrence interval. Southern NH experienced a 100-year drought event from 1964 to 1965 and a 50-year drought event beginning in the summer of 2016 through 2017. The State as a whole saw additional drought conditions in 2020.



Source: United States Drought Monitor, https://droughtmonitor.unl.edu/Data/Timeseries.aspx

Future Predictions of Drought in New Hampshire

The 2014 report "Climate Change in Southern New Hampshire: Past, Present, and Future" describes how the climate in southern NH has changed over the past 100 years and how a warmer planet will impact the future climate of the region. It finds that the frequency of short term drought (1-3 months) in NH is predicted to increase 2-3 times in the long term (2070-2099) under the higher greenhouse gas emissions scenario. The state will also likely experience a more significant increase in medium-term drought (3-6 months) during this period. Short and medium term droughts will primarily be caused by evapotranspiration as a result of hotter summers. The frequency of long-term drought (6 plus months) does not change significantly in the future under the low or high emissions scenario compared to past long-term drought events in New Hampshire (Wake et al., "Climate Change in Southern New Hampshire," pg. 30-31).

Potential Threats to Water Resources due to Drought

Although we tend to think of New Hampshire as a water-rich state, drought has the potential to greatly impact our water supplies, particularly under projected climate change scenarios. "The projections of hotter summers and more frequent short-and medium-term droughts suggest serious impacts on water supply and agriculture. Even very short water deficits (on the order of one to four weeks) during critical growth stages can have profound effects on plant productivity and reproductive success." (Wake et al., "Climate Change in Southern New Hampshire," pg. 30-31). Drought conditions will continue to place additional stress on the region's water supply.

Drinking water shortages and loss of crops are not the only impacts resulting from drought. Additional threats to water resources associated with drought include:

- Unregulated withdrawal from private wells
- Lack of water for public safety
- Reduced revenue for water suppliers from decreased usage, resulting in reduced level of service

- Lack of water for residential irrigation
- Conditions exacerbated by increased amounts of impervious surface, inconsistent conservation policies, and a lack of knowledge about threats to and uses of water resources.

SECTION 4: RECOMMENDATIONS

Section 4 identifies recommendations that can be implemented to achieve source water protection goals. Some of these recommendations are general and address multiple components of source water protection. Others focus on more specific threats to source water. Rockingham Planning Commission's 2019 *Regional Drinking Water Protection Assessment and Vulnerability Reports* identifies 12 recommendations for Stratham. These recommendations are incorporated into this document and have been identified as such.

4.1 General Recommendations

The following recommendations address multiple facets of source water protection.

1. Consider amendments to groundwater protection ordinance to enhance drinking water protection from future water contamination for private wells, public water systems in Stratham and wells in neighboring municipalities. The NHDES Groundwater Model Ordinance can be adopted in whole or part and includes many of the recommendations included below.

2. Consider increasing the minimum private well radius from 75-feet to 100 feet to increase protection of water quality from activities on other properties (including septic system placement) and the reduce the influence neighboring wells have on the volume of water that can be pumped. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be done under site plan and subdivision regulations.[1]

3. Engage with the community to determine if Stratham's current Aquifer Protection Ordinance protections should be expanded to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This would increase the geographic areas of Stratham governed under the Aquifer Protection District to cover the majority of Stratham. If the Town adopts this measure, consider exceptions for pre-existing uses or commercial areas. Also, ensure that the description for the location of the study identifying the aquifers is correct.[1] For the RPC region these are:

    a. Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins - US Geological Survey Open-File Report 92-95,"Geohydrologic and Ground-Water-Quality Data for Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins, Southeastern New Hampshire."
    b. Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins - US Geological Survey Water-Resources Investigations Report 91-4025, "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins,

Southeastern New Hampshire." Consider requiring private well inspections and water quality testing for new home construction and upon the sale of real estate.

5. Continue to pursue opportunities to extend public water and sewer infrastructure into Stratham from Exeter or other from other public systems in order to reduce dependence on private wells and to address potential contamination sources impacting existing drinking water sources.

6. Utilize existing plans and forecasting models to project and analyze how Climate Change will impact Stratham's source water quality in coming decades. Stratham should consider using information capture in the Coastal Risk and Hazards Commission (CRHC) final report Preparing New Hampshire for Projected Storm Surge, Sea-Level Rise, and Extreme Precipitation (2016) and utilizing the information within the Stratham Coastal Adaptation and Hazards Chapter of the Master Plan.

4.2 Impervious Surface Recommendations

1. Continue to limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff.

2. Review and evaluate current parking requirements in the Site Plan Regulations to determine if there are opportunities to decrease impervious surfaces associated with development proposals. Factors to consider include reducing the number of required parking spaces, providing opportunities for shared parking, enacting parking maximums, allowing for reduced road width standards for private roads, and permeable pavement options.

3. Review the Zoning Ordinance to determine if land use types associated with significant impervious surface areas, including those that utilize large vehicle display and storage areas, should be further restricted. Encourage compact land use development patterns that concentrate building and parking in confined areas and minimize impervious surfaces.

4.3 Stormwater and Septic Management Recommendations

Activities to improve stormwater and septic management can enhance the protection of drinking water sources. Many stormwater management recommendations overlap with impervious surface recommendations. Additional recommendations include:

Stormwater

1. Continue to require green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds.

2. Continue to employ road and bridge best maintenance practices to remove pollutants from stormwater runoff. These may include maintaining roadside vegetation, street sweeping, litter control, and minimizing deicer application.

3. Conduct regular outreach efforts with residents to increase awareness and encourage behavior change around general stormwater management best management practices, storm drain awareness, lawn and garden care, pet waste, septic system maintenance, motor vehicle care, and household hazardous waste.

Septic

1. Recommend property owners undertake regular septic tank and leach field inspections and maintenance.
2. Continue to require minimum septic system setback distances from surface water sources.
3. Consider requiring community septic and/or well systems, maintained by Homeowners Associations, for future cluster residential subdivisions to ensure adequate maintenance of drinking water and septic facilities.

4.4 Land Use Controls and Land Management Recommendations

Managing how land within or around the watershed or aquifer recharge area is used can have significant impacts on water quality. Recommendations include:

1. Promote land conservation near drinking water supply sources to ensure long-term protection.[1] Funding sources for assistance:
    a. NHDES Water Supply Land Protection Grants
    b. NHDES Aquatic Resource Mitigation Grants
    c. NH Drinking Water & Groundwater Trust Fund – Source Water Protection Grant
    d. Natural Resource Conservation Service Grants (various grants)
2. Prioritize conserving land in the Town's stratified drift aquifers to support groundwater recharge. This can be accomplished through land purchases, conservation easements, and land trusts.
3. Educate landowners regarding responsible land and agricultural management practices. These may include lawn maintenance and landscaping practices that limit the amount of pesticides, fertilizers, and water needed.
4. Enhance existing erosion and sediment load control measures through improved land management and stewardship, good housekeeping practices at construction sites (ex. on-site vehicle washing, timing construction activities with periods of lower rainfall), and strategic planting of vegetation.
5. Improve forestry management, including monitoring and maintaining forest roads, pre-harvest planning, establishing no-harvest zones, or reducing harvesting in riparian management zones.
6. Work cooperatively with major landowners to purchase land or obtain conservation easements for parcels near drinking water sources.

7. Continue to support and promote participation in a regional household hazardous waste collection program to ensure that residents have a way to properly dispose of corrosive, flammable, toxic, and reactive materials commonly found in their homes. Consider expanding the program to offer multiple collection events each year and to allow Small Quantity Generators to participate.

4.5 Best Management Practices Recommendations

1. Continue conducting an inspection program for all potential contamination sources (PCSs) and enforce state groundwater best management practices. Evaluate if frequency of inspections of PCSs every three years is adequate. See NHDES Fact Sheet Best Management Practices for Groundwater Protection.[1]

2. Conduct GIS mapping, field surveys, or watershed and water quality monitoring. These activities can help better understand the impacts of land use, pollution discharge, and other human and natural activities on water quality. They can also help to identify and prioritize source lands.

3. Develop or update a contaminant inventory. The inventory should describe individual sources or categories of contaminants within the watershed or aquifer recharge area.

4. Monitor and track contaminant sources based on the contaminant inventory over time.

4.6 Wildlife Control Recommendations

Wildlife and domestic pets can be a source of biological threats to public water supply safety. Control measures include:

1. Encourage private property owners to implement measures to repel birds and wildlife from source waters. These may include decoys, fencing, and habitat modifications such as tree pruning or other landscaping and vegetation changes.

2. Continue to encourage residents to properly dispose of pet waste to reduce water contamination associated with domesticated pets.

4.7 Drought Recommendations

In addition to safeguarding water quality, source water protection helps to ensure that an adequate supply of water is available.

Ensuring Adequate Water Supply

1. Incorporate the projected impacts of climate change into capital planning, and long-term forecasting and planning.

2. Monitor drought conditions for impacts on small Public Water Systems (PWS) and private wells in Stratham. Utilize NH Division of Forest and Lands reports and consult the New Hampshire Drought Management Team (DMT) and the State Drought Management Plan to monitor

drought indicators. Drought regions and updates on the drought status may be found at: https://www.des.nh.gov/climate-and-sustainability/storms-and-emergencies/drought.

Conservation Measures to Reduce Water Demand

1. Adopt a plan and process to encourage water conservation and guide Town Government actions during drought conditions. The plan should detail the timing and implementation of different control measures, including public education, voluntary water restrictions, and mandatory water restrictions, during different phases of drought emergencies. The plan should also address the use of water resources for non-essential purposes (ex. landscaping, washing cars, filling swimming pools) and to prioritize water use, particularly for emergency situations such as firefighting, during drought conditions. The plan should also outline public outreach measures to convey the need for conservation measures during drought conditions to residents and members of the business community.
2. Continue to enforce RSA 41:11-d, which allows municipalities to restrict all residential lawn watering for properties on public water systems and those on private domestic wells within their political boundaries if the state or federal government declares a drought condition for that region of the state. The governing body can enforce the lawn watering restrictions by imposing fines in accordance with RSA 625:9. Notice shall be given at least 3 calendar days before the regulations are implemented and shall be published in a paper of general circulation in the municipality and shall be posted in at least 2 public places. Other outreach methods include municipal websites, social media accounts, local cable, and reverse 911 services.
3. Continue to encourage Low Impact Development techniques, such as drought tolerant landscape design or permeable driveways and surfaces to reduce runoff and promote groundwater recharge.
4. Collaborate with water utilities, public officials, local schools, neighboring municipalities, and regional partners to develop an outreach program on the importance of the region's water resources and the threats they face.
5. Utilize the Rockingham Planning Commission to work with neighboring municipalities on drafting and adopting consistent conservation policies that protect the region's water supply.

4.8 Emergency Preparedness and Response Recommendations

Implementing and enhancing existing emergency preparedness and response measures can help to avoid potentially serious drinking water source contamination events. These measures can also help to expedite a water system's recovery from a contamination event. Examples include:

1. Coordinate internally with local officials responsible for spill prevention and control measures.

4.9 Prioritizing Recommendations

When evaluating potential recommendations it is important to consider the following:

- Cost of implementation
- Timescale for implementation

- Technical complexity
- Associated legal restrictions
- Community support and consensus for implementation
- Ability of partner organizations and/or government entities to assist and provide technical support
- Responsible party for implementation
- Key stakeholders who will be affected by the activity.

SECTION 5. IMPLEMENTATION

Once threats to source water have been identified and recommendations have been prioritized, the next step in source water protection is implementation. Communities have a variety of regulatory and non-regulatory tools they can utilize to protect their sources of drinking water. The following is a list of existing resources Stratham has in place to protect water quantity and quality.

5.1 Ordinances and Regulations

Zoning Ordinances Relevant to Source Water Protection

- Town of Stratham Zoning Ordinance, Section XI: Wetlands Conservation District (Overlay)—the intent of this overlay district is to provide protection for and appropriate use of lands which are delineated as poorly drained or very poorly drained soils identified by the US Dept. of Agriculture, Soil Conservation Service, through field mapping surveys and shown on its field mapping photographic sheets for the Town of Stratham, NH.
- Town of Stratham Zoning Ordinance, Section XIII: Aquifer Protection District (Overlay)—the intent of this district is to protect, preserve, and maintain potential groundwater supplies and related groundwater recharge areas within Town.
- Town of Stratham Zoning Ordinance, Section XIV: Sewage Sludge and Residential Septage Application
- Town of Stratham Zoning Ordinance, Section XVIII: Floodplain Management District (Overlay)—the intent of this district is to maintain the flood carrying capacity of the surface waters of Stratham by discouraging the alteration of floodway, and by promoting building practices within the Town's flood hazard areas which are consistent with minimizing flood damage to land and property.
- Town of Stratham Zoning Ordinance, Section XX: Sanitary Protection and Septic Ordinance
- Town of Stratham Zoning Ordinance, Section X: Local Regulation of Excavation
    - Section 10.5.4 Prohibited Projects: f) where the excavation would substantially damage a known aquifer, so designated by the United States Geological Survey.
    - Section 10.5.4 Prohibited Projects: g) when excavation is planned beneath or adjacent to inland surface waters in such a manner that a permit is required from the Water Supply and Pollution Control Commission, the Water Resources Board, the Special Board on Dredge and Fill or other state or federal agencies with jurisdiction over the premises; but the Regulator may approve the application when all necessary permits have been obtained.

Subdivision Regulations Relevant to Source Water Protection

- Town of Stratham Subdivision Regulations, Section 4.4.10 On-Site Water Supply: the provision of on-site water supply shall conform to NHDES Water Supply and Pollution Control Division criteria and be subject to approval by the Board. It shall be the responsibility of the subdivider to provide adequate information to prove the area of each lot is adequate to permit the installation and operation of both individual on-site water supply and sewage disposal systems.
- Town of Stratham Subdivision Regulations, Section 4.4.13 Flood Hazard Areas
- Town of Stratham Subdivision Regulations, Section 4.4.14 Stormwater Management and Erosion Control
- Town of Stratham Subdivision Regulations, Addendum C: Stormwater Management and Erosion Control Specifications

Site Plan Review Regulations Relevant to Source Water Protection

- Town of Stratham Site Plan Review Regulations, Section 5.3 Storm Drainage
- Town of Stratham Site Plan Review Regulations, Section 5.4 Flood Control
- Town of Stratham Site Plan Review Regulations, Section 5.10 Water and Sewer Service
- Town of Stratham Site Plan Review Regulations, Addendum C, Stormwater Regulations

Other Ordinances and Regulations

- Stratham Ordinance 2-01 Solid Waste Removal and Litter, Section 2-01-04—IMPROPER DISPOSAL: Disposal or depositing of any solid waste material or litter except at the Town's solid waste facility, or within an appropriate container intended for the immediate pickup by a licensed solid waste handler, or at a private solid waste facility licensed and/or approved for operation within Stratham by the State of NH and/or the Town of Stratham; shall be prohibited within the town boundaries of Stratham.

State Regulatory Tools for Drought

- RSA 41:11-d http://www.gencourt.state.nh.us/rsa/html/iii/41/41-11-d.htm
    - RSA 41:11-d allows municipalities to restrict all residential lawn watering for properties on public water systems and those on private domestic wells within their political boundaries if the state or federal government declares a drought condition for that region of the state. The governing body can enforce the lawn watering restrictions by imposing fines in accordance with RSA 625:9. Notice shall be given at least 3 calendar days before the regulations are implemented and shall be published in a paper of general circulation in the municipality and shall be posted in at least 2 public places.
- Env-Dw 503 https://www.des.nh.gov/rules-and-regulatory/administrative-rules?key=EnvA1000&keys=&subcategory=&purpose=&page=2
    - Env-Dw 503.09 Termination of Services—allows water system owner to terminate services for causes including (d 6) violation of water use bans imposed by the water system, including but not limited to, exterior water use when a use restriction has been imposed by the water system.

- Env-Dw 503.18 Evaluation of Water Supply Adequacy Required—the water system owner shall review, periodically as needed, the sources and treatment of the water supply in relationship to customer demand, for the purpose of ensuring that the system can meet its obligation to customers.
- Env-Dw 503.19 Short -Term Water Supply Inadequacies
- Env-Dw 503.20 Long -Term Water Supply Inadequacies
- Env-Dw 503.21 Emergency Plans for Community Water Systems
- Env-Dw 503.22 Available Sources of Water

Recommendations related to Ordinances and Regulations.

Municipal Ordinances and regulations offer perhaps the most straight-forward and consequential way for the Town to address water quality concerns. In most cases, as new land use regulations are enacted, most existing uses are exempt from compliance, however as development and redevelopment occur, the regulations come into effect The Town will have to ensure that there is a consensus among residents and members of the business community that new ordinances and regulations are right for Stratham before they are pursued and implemented. The following recommendations from Section 4 of this report can best be implemented through ordinances and regulations:

- Consider amendments to groundwater protection ordinance. The NHDES Groundwater Model Ordinance can be adopted in whole or part and includes many of the recommendations included below. *(Section 4.1)*

- Consider increasing the minimum private well radius to 100 feet. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be incorporated under site plan and subdivision regulations. *(Section 4.1)*

- Increase protections along surface waters or conduct water quality planning.[1] Funding sources for assistance *(Section 4.1)*

- Engage with the community to determine if Stratham's current Aquifer Protection Ordinance protections should be expanded to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This would increase the geographic areas of Stratham governed under the Aquifer Protection District to cover the majority of the town. If the Town, adopts this measure consider exceptions for pre-existing uses or commercial areas. Also, ensure that the description for the location of the study identifying the aquifers is correct.[1] For the RPC region these are:
    a. Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins - US Geological Survey Open-File Report 92-95,"Geohydrologic and Ground-Water-Quality Data for Stratified-Drift Aquifers in the Exeter, Lamprey, and Oyster River Basins, Southeastern New Hampshire."

b. Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins - US Geological Survey Water-Resources Investigations Report 91-4025, "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Lower Merrimack and Coastal River Basins, Southeastern New Hampshire." *(Section 4.1)*

- Continue to limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff. This can be done by adopting the NH Southeast Watershed Alliance Model Stormwater, which in many cases is also required for compliance for the federal MS4 Stormwater Permit. *(Section 4.1)*

- Review and evaluate current parking requirements in the Site Plan Regulations to determine if there are opportunities to decrease impervious surfaces. Factors to consider include the number of required parking spaces, opportunities for shared parking, enacting parking maximums, road standards for private roads, and permeable pavement options. *(Section 4.1)*

- Review the Zoning Ordinance to determine if land use types associated with significant impervious surface areas, including those that utilize large vehicle display and storage areas, should be further restricted. Encourage compact land use development patterns that concentrate building and parking in confined areas and minimize impervious surfaces. Recommend property owners undertake regular septic tank and leach field inspections and maintenance. *(Section 4.3, Septic)*

- Continue to require minimum septic system setback distances from surface water sources. *(Section 4.3, Septic)*

- Consider requiring community septic and/or well systems, maintained regularly by Homeowners Associations, for future cluster residential subdivisions. *(Section 4.3, Septic)*

- Continue to enforce RSA 41:11-d, which allows municipalities to restrict all residential lawn watering for properties on public water systems and those on private domestic wells within their political boundaries if the state or federal government declares a drought condition for that region of the state. The governing body can enforce the lawn watering restrictions by imposing fines in accordance with RSA 625:9. Notice shall be given at least 3 calendar days before the regulations are implemented and shall be published in a paper of general circulation in the municipality and shall be posted in at least 2 public places. Other outreach methods include municipal websites, social media accounts, local cable, and reverse 911 services. *(Section 4.7, Conservation Measures to Reduce Water Demand)*

- Utilize the Rockingham Planning Commission to work with neighboring municipalities on drafting and adopting consistent conservation policies that protect the region's water supply. *(Section 4.7, Conservation Measures to Reduce Water Demand)*

- Consider requiring private well inspections and water quality testing for new home construction and upon the sale of real estate. *(Section 4.1)*

5.2 Planning Tools

Master Plan

As a community's primary long-term planning resource, Master Plans play an important role in source water protection. For example, before a community can adopt a groundwater protection ordinance, it should address the need for groundwater protection in its Master Plan. The purpose of the ordinance should be consistent with the vision statements, goals, and objectives of the Master Plan. The Master Plan should also specify the geographic scope of groundwater protection efforts within the municipality.

The Town of Stratham most recently updated and adopted its Master Plan on November 20, 2019. Stratham's Natural Resources Inventory was also updated as part of this process. References to water quality and source water protection can be found in the following sections of the Stratham Master Plan:

- Community Vision: Land Use
- Choosing a Future for Stratham: The Gateway
- Choosing a Future for Stratham: Sustaining Our Natural Resources

Appendix 4 of this plan documents key concepts and recommendations related to source water protection that are addressed in both the Stratham Master Plan and the Source Water Protection Plan. The Town of Stratham can reference and summarize this Source Water Protection Plan during the next update to its Master Plan.

Contingency Planning

A contingency plan is a blueprint outlining roles and responsibilities in the event that the water system experiences a disruption due to contamination, loss of power, natural disasters (ex. drought or flooding), or other circumstances where it cannot provide services. Local officials should work with water systems to review their emergency response plans and identify short and long-term water supply options in case of an emergency. It is also important for the community to have a plan in place to address drought conditions.

Recommendations related to Planning

The following recommendations from Section 4 of this report can best be implemented through planning:

- Increase protections along surface waters or conduct water quality planning. *(Section 4.1)*
- Coordinate with local officials responsible for spill prevention and control measures. *(Section 4.8)*
- Establish and document clear emergency response procedures for water system personnel and network with other community responders as appropriate. *(Section 4.8)*

- Incorporate climate change factors into utility forecasting and planning. *(Section 4.7, Ensuring Adequate Water Supply)*

- Monitor drought conditions for impacts on small Public Water Systems (PWS) and private wells in Stratham. Utilize NH Division of Forest and Lands reports and consult the New Hampshire Drought Management Team (DMT) *(Section 4.7, Ensuring Adequate Water Supply)*

- Adopt a plan and process to encourage water conservation and guide Town Government actions during drought conditions. The plan should detail the timing and implementation of different control measures, including public education, voluntary water restrictions, and mandatory water restrictions, during different phases of drought emergencies. The plan should also address the use of water resources for non-essential purposes (ex. landscaping, washing cars, filling swimming pools) and to prioritize water use, particularly for emergency situations such as firefighting, during drought conditions. The plan should also outline public outreach measures to convey the need for conservation measures during drought conditions to residents and members of the business community. *(Section 4.7, Conservation Measures to Reduce Water Demand)*

- Continue to explore opportunities to extend public water and sewer infrastructure into Stratham from Exeter. *(Section 4.1)*

5.3 Land Acquisition

One of the most effective ways to ensure that drinking water is not contaminated is through land acquisition or restrictive easements. Restrictive easements are agreements with landowners that prevent them from developing land or using it in a way that might threaten groundwater. Yet while this strategy is effective, purchasing land in the source water protection area and keeping it from being developed can be very expensive. The NH Department of Environmental Services' Water Supply Land Conservation Grant Program offers funding for land acquisition and conservation easements to help protect community and non-transient non-community drinking water supplies. Municipalities and non-profits with water supply or land conservation missions are eligible to apply. More information can be found at: https://www4.des.state.nh.us/nh-dwg-trust/?page_id=98

Recommendations related to Land Acquisition.

The following recommendations from Section 4 of this report can best be implemented through land acquisition:

- Promote and prioritize land conservation near drinking water supply sources to ensure long-term protection. *(Section 4.2)*

- Promote and prioritize land conservation near water bodies that are likely to be impacted by rising sea levels associated with Climate Change. The Rockingham Planning Commission is working with the Strafford Regional Planning Commission and NH Department of Environmental Services to develop a user-friendly Coastal Land Use Guide and Sustainability Framework, slated for completion in 2022, to help guide these decisions.
-
- Prioritize conserving land in the Town's stratified drift aquifers to support groundwater recharge. This can be accomplished through land purchases, conservation easements, and land trusts. *(Section 4.4)*

- Purchase land or obtain conservation easements near drinking water sources. *(Section 4.4)*

5.4 Best Management Practices for Groundwater Protection

More than half of New Hampshire residents depend on groundwater as their primary source of drinking water. To help protect this valuable resource, in 1991 the NH State Legislature passed the Groundwater Protection Act (RSA 485-C). The Groundwater Protection Act acknowledges that groundwater contamination can occur as a result of leaking storage facilities, improper waste disposal, accidental spills, and even normal use of certain substances. It also required the NH Dept. of Environmental Services to adopt best management practice (BMP) rules for the potential contaminant sources (PCSs) listed in Section 3.2 of this Plan.

As a result of the Groundwater Protection Act, NH DES developed and adopted NH Code of Administrative Rules Part Env-Wq 401 Best Management Practices for Groundwater Protection. It identifies BMPs that are considered simple, cost-effective, common-sense operating practices that help to prevent the release of regulated substances under this rule.

Municipalities may create local BMP inspection programs for potential contamination sources. Currently, Stratham does not have a BMP inspection program. If the Town chooses to implement a program, there are several options for how to structure it, described below.

Reclassification

The 1991 Groundwater Protection Act (RSA 485-C) established four classes of groundwater, which are shown in the table below. Initially, areas are classified as GA2 or GB. However, communities can reclassify their groundwater to better protect it.

Groundwater Classifications under RSA 485-C

Groundwater Classification	**Classification Description and Protection Activities**
GAA	**Delineated Wellhead Protection Areas**—prohibits new and monitors existing high-risk uses, such as landfills. Authorizes active management of PCSs on local level.

GA1	**Groundwater of high value for present or future drinking water**—no land use prohibitions. Authorizes active management of PCSs on local level.
GA2	**Potentially valuable stratified drift aquifer**—no active management.
GB	**All groundwater not assigned to a higher class**—no active management.

Areas can be reclassified as GA1 if they are or have the potential to be sources of drinking water for the entire community. GA1 areas typically include stratified-drift aquifers, although they could include other areas of significance to the local community.

The GAA classification is reserved for wellhead protection areas. Wellhead protection areas are the surface lands that contribute to an active, non-transient public water supply well. They are identified through technical study or based on the volume of water the well is designed or permitted to produce.

When a community reclassifies areas to GA1 or GAA, it is required to adopt a local management plan to prevent the release of harmful contaminants into the groundwater. This plan can be administered by the municipality or the public water supplier. The plan must identify potential contamination sources and conduct on-site inspections to ensure best management practices are being followed. In addition to implementing a local management plan, reclassification to GAA also requires the prohibition of new high-risk land uses as well as groundwater monitoring for existing high-risk uses under a NH DES Groundwater Release Detection Permit. These include: hazardous waste disposal facilities, solid waste landfills, outdoor bulk storage of road salt, junkyards, snow dumps, and wastewater or septage lagoons.

Health Regulations

Another option available to municipalities is to adopt health regulations that require businesses with significant quantities of hazardous substances to implement BMPs to prevent groundwater contamination. In Stratham, authority to inspect handling practices for hazardous substances at PCSs falls under the Code Enforcement Officer/Building Inspector/Health Officer within the Building Department. Inspections are currently conducted every 3 years for all PCSs in Stratham. The goal of these inspections is to educate business owners about proper practices for handling hazardous substances and ensure they are being followed. Municipalities with health regulations may take enforcement action against a business or refer it to NH Dept. of Environmental Services if it refuses to cooperate. It should be noted, however, that NH DES does not have the authority to enforce local health regulations.

Voluntary BMP Inspections

If a municipality does not wish to pursue a mandatory inspection program, such as those resulting from reclassification or a local health regulation, it can instead choose to conduct a voluntary inspection program. Voluntary BMP inspections are structured similarly to mandatory programs, however, businesses are not required to participate and the municipality has no local enforcement authority. Local officials or water suppliers can report businesses in violation to NH DES for inspections and enforcement, if necessary, under voluntary programs.

Choosing Between Voluntary Measures, Reclassification, and Health Ordinances

A municipality may adopt health ordinances for wellhead or groundwater protection independently or in conjunction with reclassification. Or they may choose to implement a voluntary inspection program. There are advantages and disadvantages to each approach. Voluntary inspection programs or health ordinances may be best suited for smaller towns that do not have sufficient staff to implement all of the inventories and inspections required as part of groundwater reclassification. In addition, health ordinances and voluntary programs afford the municipality more flexibility in terms of the land uses, potential contamination sources, and best management practices that they wish to address. Health ordinances also allow municipalities to collect inspection fees, which reclassification and voluntary programs do not.

The disadvantages to health ordinances and voluntary programs are that they do not allow municipalities to prohibit new high-risk land uses or to require groundwater monitoring for existing high-risk uses under a NH DES Groundwater Release Detection Permit. That said, these uses could be prohibited or required to meet performance and design standards under local zoning ordinances.

Recommendations related to Best Management Practices for Groundwater Protection

The following recommendations from Section 4 of this report can best be implemented through Best Management Practices for Groundwater Protection:

- Consider adopting an inspection program for all potential contamination sources (PCSs) and enforce state groundwater best management practices. See NHDES Fact Sheet Best Management Practices for Groundwater Protection. *(Section 4.5)*

- Consider applying to NHDES for a groundwater reclassification. This mechanism allows a municipality to enforce state groundwater best management rules and conduct inspections on potential contamination sources. *(Section 4.5)*

- Conduct GIS mapping, field surveys, or watershed and water quality monitoring. These activities can help a water system better understand the impacts of land use, pollution discharge, and other human and natural activities on water quality. They can also help to identify and prioritize source lands. *(Section 4.5)*

- Develop or update a contaminant inventory. The inventory should describe individual sources or categories of contaminants within the watershed or aquifer recharge area. *(Section 4.5)*

- Monitor and track contaminant sources based on the contaminant inventory over time. *(Section 4.5)*

5.5 Public Education

Efforts to improve water quality will be most effective when there is broad community support behind them. The following is a brief list of public education tools that can be used to implement source water

protection plan goals and recommendations. A more detailed discussion of public education strategies can be found in Section 6 of this Plan.

- Partnerships with colleges, local environmental groups, government agencies, and local boards. Partnerships may be specific to a single source of pollution or may address pollution more broadly across the entire watershed. Regional resources include the University of New Hampshire Stormwater Center and the UNH Cooperative Extension.
- Tours for students, municipal officials, and homeowners of source water protection projects.
- Educational mailings in water bills.
- Community activities, such as fairs, Earth Day celebrations, and clean-up events.
- Watershed awareness signs to alert residents when they are in a drinking water supply area.
- Brochures and newsletters on topics such as rain gardens, vehicle maintenance, lawn and garden chemical use, car washing, household hazardous waste (HHW), pet waste, litter or soil in storm drains, and pharmaceutical disposal.

Recommendations related to Public Education

The following recommendations from Section 4 of this report can best be implemented through public education:

- Conduct an outreach campaign for residents to increase awareness and encourage behavior change around general stormwater management best management practices, storm drain awareness, lawn and garden care, pet waste, septic system maintenance, motor vehicle care, and household hazardous waste. *(Section 4.3, Stormwater)*
- Work with landowners to implement responsible land and agricultural management practices. These may include lawn maintenance and landscaping practices that limit the amount of pesticides, fertilizers, and water needed. *(Section 4.4)*
- Initiate a pet waste management and disposal campaign. *(Section 4.6)*
- Collaborate with water utilities, public officials, and local schools to develop an outreach program on the importance of the region's water resources and the threats they face. *(Section 4.7, Conservation Measures to Reduce Water Demand)*

5.6 Stormwater Best Management Practices

Stormwater Best Management Practices (BMPs) can help to reduce the speed of runoff and promote filtering or infiltration of stormwater. These types of stormwater BMPs include constructed wetlands, grass swales, riparian buffers, pervious pavement, and rain gardens. Other BMPs focus on education and changing public behavior in areas such as storm drain awareness, lawn and garden care, pet waste, septic system maintenance, and household waste.

Stratham is required to comply with the US Environmental Protection Agency's New Hampshire Small MS4 Stormwater Permit. Many of the activities that the Town undertakes as part of this permit also aid

in its efforts to protect drinking water quality and should be incorporated into ongoing source water protection initiatives.

Recommendations related to Storm Water Best Management Practices

The following recommendations from Section 4 of this report can best be implemented through Stormwater Best Management Practices:

- Employ road and bridge best maintenance practices to remove pollutants from stormwater runoff. These may include maintaining roadside vegetation, street sweeping, litter control, and minimizing deicer application. *(Section 4.3, Stormwater)*
- Consider partnering with the private sector and state partners to adopt a septic replacement incentive program to provide low-interest loans or grants to repair or replace failing septic systems. *(Section 4.3, Septic)*
- Implement measures targeted at controlling erosion and sediment loading through improved land management and stewardship, good housekeeping practices at construction sites (ex. on-site vehicle washing, timing construction activities with periods of lower rainfall), and strategic planting of vegetation. *(Section 4.4)*
- Improve forestry management, including monitoring and maintaining forest roads, pre-harvest planning, establishing no-harvest zones, or reducing harvesting in riparian management zones. *(Section 4.4)*
- Encourage Low Impact Development techniques, such as drought tolerant landscape design or permeable driveways and surfaces to reduce runoff and promote groundwater recharge. *(Section 4.7, Conservation Measures to Reduce Water Demand)*
- Review and evaluate current parking requirements in the Site Plan Regulations to determine if there are opportunities to decrease impervious surfaces. Factors to consider include the number of required parking spaces, opportunities for shared parking, road standards for private roads, stall and driving aisle dimensions, and permeable pavement options. *(Section 4.2)*

5.7 Proper Waste Disposal

Household Hazardous Wastes (HHW) come from everyday products used in the home, yard, or garden. By definition, household hazardous waste is corrosive, flammable, toxic, or reactive. Oil-based paints, solvents, auto products, antifreeze, pesticides, gas, and household cleaners are just a few examples.

When hazardous waste is improperly disposed of—in the trash, on the ground, down the sink, or into a storm drain—it poses a threat to water quality, human health, and wildlife. The Town of Stratham offers its residents an opportunity to safely dispose of HHW at an annual collection event. It is typically

held in October in cooperation with Exeter, Newfields, East Kingston, Epping, Seabrook, and South Hampton. Stratham residents should be encouraged to participate as part of the Town's source water protection efforts.

Recommendations Related to Proper Waste Disposal

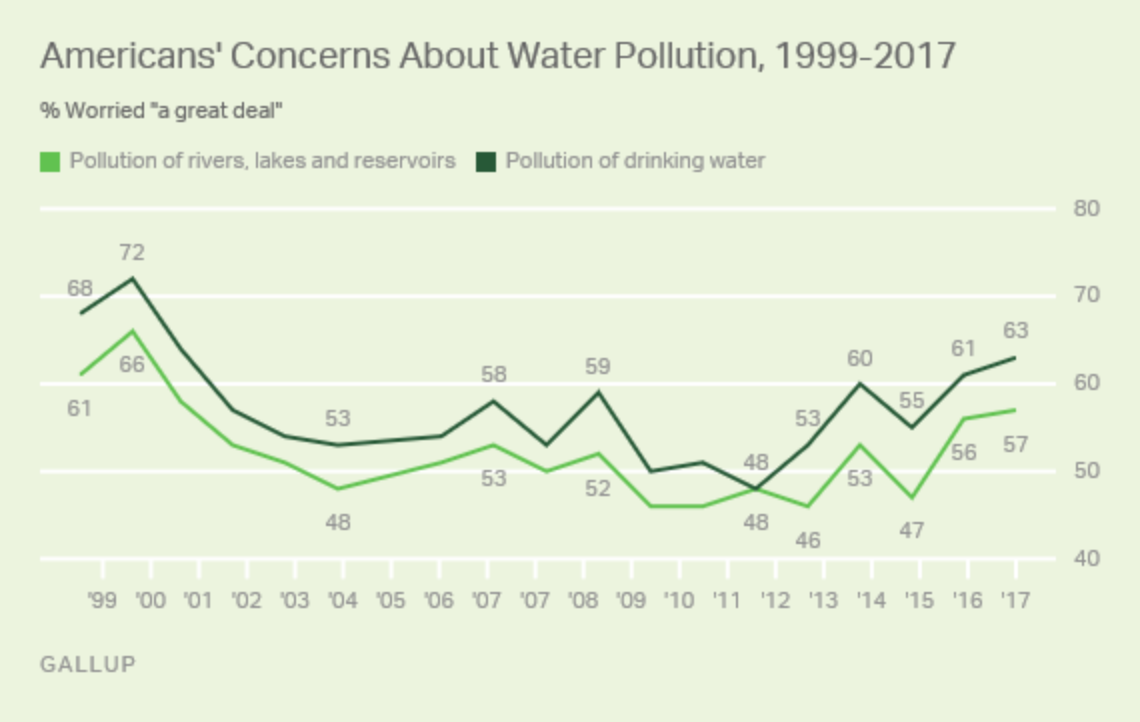
The following recommendation from Section 4 of this report can best be implemented through proper waste disposal:

- Continue to support and promote participation in a regional household hazardous waste collection program to ensure that residents have a way to properly dispose of corrosive, flammable, toxic, and reactive materials commonly found in their homes. Consider expanding the program to offer multiple collection events each year and to allow Small Quantity Generators to participate. *(Section 4.4)*

SECTION 6. PUBLIC OUTREACH

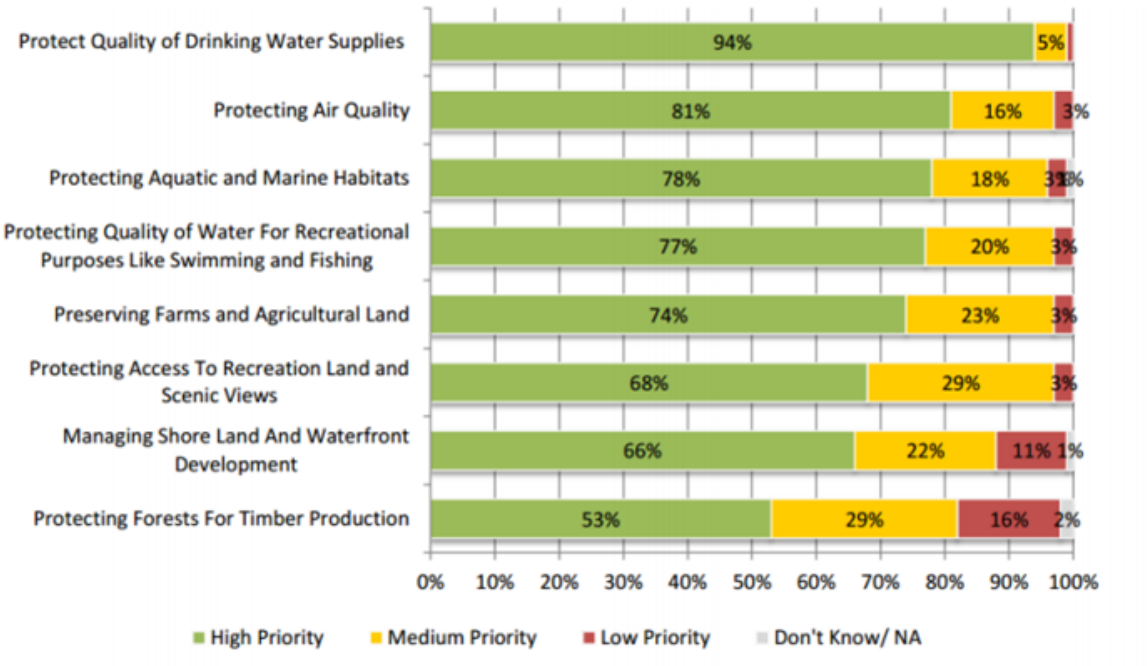
6.1 Concern for Clean Water

Clean water is an issue we all care about. Several surveys suggest that many Americans place special importance to the issue. According to a March 2017 Gallop poll, 63% of Americans "worry a great deal about pollution of drinking water" and 57% "worry a great deal about pollution of rivers, lakes, and reservoirs." Gallop began polling about environmental concerns in 1989 and has been tracking them regularly since 1999. Since then, between 48% and 72% of Americans have expressed a great deal of concern about drinking water pollution and between 46% and 66% have expressed this level of concern about pollution in rivers, lakes, and reservoirs.



Source: Gallup

New Hampshire residents share these concerns about water pollution. In 2015, he University of New Hampshire Survey Center found that protecting drinking water supplies was the highest priority for natural resource protection among state and Rockingham Planning Commission region residents. These results appear in the Rockingham Planning Commission's 2015 Regional Master Plan.



Source: UNH Survey Center, Rockingham Planning Commission Regional Master Plan, 2015, http://www.therpc.org/application/files/3114/6100/8414/8_RMPNaturalResources.pdf

6.2 Designing Educational Materials

Outreach and education initiatives are critical for obtaining buy-in and participation. Outreach and education should target stakeholders who are directly impacted by source water protection activities and those who can serve as advocates for source water protection initiatives.

When designing public outreach materials, there are several things to keep in mind. Residents who understand the importance of protecting their drinking water source are more likely to support and participate in efforts to care for the rivers, lakes, streams, springs, and groundwater supplies they depend on. As such, all public outreach materials should explain why it is important to protect the source area. It is also important to offer specific and practical advice for how individuals and businesses can reduce water use and pollution. Photos, illustrations, maps, and charts can help to reinforce messages in public outreach material. Whenever possible, use local residents to showcase what people in the community are doing to protect drinking water supplies. Likewise, be sure to celebrate local accomplishments when it comes to source water protection.

6.3 Public Outreach to Stratham Boards and Residents

A Source Water Protection Plan can only be successful if it is developed in cooperation with members of the community. Input for this Plan was obtained during a series of four meetings. Agendas from these meetings can be found in Appendix 2. The first two meetings were held on February 22, 2021 and March

4, 2021 with members of the Stratham Source Water Protection Steering Committee. Members of the public were also able to access and participate in these meetings. The Steering Committee included:

- David Moore--Stratham Town Administrator
- Mark Connors--Stratham Town Planner
- Shanti Wolph--Stratham Health Officer
- Nate Mear--Stratham DPW Director
- Allison Knab--Stratham Select Board member
- Rob Roseen--Stratham Planning Board member
- Kyle Saltonstall--Stratham Conservation Commission member

The Steering Committee was primarily tasked with providing input on the Recommendations and Implementation sections of this Plan.

Additionally, a meeting with Stratham Planning Board also held to review the plan and obtain the Planning Board's input on March 17, 2021. The presentation from that meeting can be found in Appendx 2 and minutes from that meeting area available at: https://www.strathamnh.gov/sites/g/files/vyhlif5051/f/minutes/2021.03.17_approved_minutes.pdf

SECTION 7: APPENDIX

Appendix 1. Confirmed Contaminant Detection

PWS	Violation Description	Contaminant or Rule	Begin Date	Returned to Compliance	Regulator
ABERDEEN/WEST	DBP M/R	Chlorine	7/1/2016	1/19/2017	Federal
ACORN SCH	DBP M/R	CHLORINE	10/1/2016	4/4/2017	FEDERAL
ACORN SCH	MON-FAILURE TO COLLECT ADDL ROUTINES	REVISED TOTAL COLIFORM RULE	7/1/2020	8/31/2020	FEDERAL
ACORN SCH	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	7/1/2014	1/6/2015	FEDERAL
ACORN SCH	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	7/1/2013	2/6/2014	FEDERAL
ACORN SCH	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	7/1/2020	8/31/2020	FEDERAL
AUTOFAIR NISSAN	GWR-TM MONITORING/ REPORTING VIO	ESCHERICHIA COLI (E. COLI)	3/9/2016	3/28/2016	FEDERAL
AUTOFAIR NISSAN	MAJOR MONITORING/REPORTIN G VIOLATION	COLIFORM (TOTAL COLIFORM RULE)	4/1/2013	7/18/2013	FEDERAL
BELL AND FLYNN	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	10/1/2013	8/26/2014	FEDERAL
BELL AND FLYNN	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	7/1/2013	8/26/2014	FEDERAL

BMW OF STRATHAM	MON-FAILURE TO COLLECT ADDL ROUTINES	REVISED TOTAL COLIFORM RULE	7/1/2019	9/3/2019	FEDERAL
BMW OF STRATHAM	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	7/1/2019	9/3/2019	FEDERAL
BURNHAVEN	MONITORING/REPORTIN G VIOLATION	ARSENIC	1/1/2014	4/22/2014	FEDERAL
CHISHOLM FARM	DBP M/R	CHLORINE	1/1/2019	4/18/2019	FEDERAL
CHISHOLM FARM	DBP M/R	HAA5 (TOTAL)	7/1/2018	11/1/2018	FEDERAL
CHISHOLM FARM	DBP M/R	TTHM	7/1/2018	11/1/2018	FEDERAL
CHISHOLM FARM	DBP M/R	CHLORINE	10/1/2017	2/9/2018	FEDERAL
CHISHOLM FARM	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2019	10/21/201 9	FEDERAL
CHISHOLM FARM	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2019	10/21/201 9	FEDERAL
CHISHOLM FARM	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	7/1/2017	2/21/2018	FEDERAL
CHISHOLM FARM	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2017	2/21/2018	FEDERAL
EXETER SUBARU	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE	4/1/2016	7/6/2016	FEDERAL
EXETER SUBARU	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	4/1/2016	7/6/2016	FEDERAL
GLENGARRY CONDOS	CCR REPORT VIOLATION /MAJOR	CONSUMER CONFIDENCE REPORTING	7/1/2015	7/23/2015	FEDERAL
GLENGARRY CONDOS	DBP M/R	HAA5 (TOTAL)	7/1/2019	10/18/201 9	FEDERAL
GLENGARRY CONDOS	DBP M/R	TTHM	7/1/2019	10/18/201 9	FEDERAL
GLENGARRY CONDOS	DBP M/R	CHLORINE	10/1/2017	2/9/2018	FEDERAL
GLENGARRY CONDOS	DBP M/R	CHLORINE	7/1/2016	12/14/201 6	FEDERAL
GLENGARRY CONDOS	GWR-TM MONITORING/ REPORTING VIO	ESCHERICHIA COLI (E. COLI)	10/13/201 6	10/25/201 6	FEDERAL
GLENGARRY CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ANTIMONY	1/1/2020	10/15/202 0	FEDERAL
GLENGARRY CONDOS	TT L1 FAILURE CONDUCT/INADEQUATE CONTENT	REVISED TOTAL COLIFORM RULE	9/21/2018	10/2/2018	FEDERAL
GOLF CLUB OF NE/CLUBHOUSE	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	7/1/2013	8/26/2014	FEDERAL
JEWETT HILL	MON-FAILURE TO COLLECT ADDL ROUTINES	REVISED TOTAL COLIFORM RULE	6/1/2017	8/1/2017	FEDERAL
JEWETT HILL	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	6/1/2017	8/1/2017	FEDERAL
LAMINGTON HILL	DBP M/R	CHLORINE	10/1/2017	2/9/2018	FEDERAL

LAMINGTON HILL	DBP M/R	CHLORINE	7/1/2016	12/14/2016	FEDERAL
LINDT AND SPRUNGLI USA/BLDG E	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	10/1/2013	8/26/2014	FEDERAL
MONTROSE CONDOS	ACUTE MCL VIOLATION	COLIFORM (TOTAL COLIFORM RULE)	7/1/2014	1/6/2015	FEDERAL
MONTROSE CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2013	10/14/2014	FEDERAL
MONTROSE CONDOS	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	1/1/2015	3/20/2015	FEDERAL
MONTROSE CONDOS	TT L1 FAILURE CONDUCT/INADEQUATE CONTENT	REVISED TOTAL COLIFORM RULE		3/12/2019	FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2020		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2019		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	7/1/2019		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2019		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2019		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2018		FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2017	2/1/2018	FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2017	2/1/2018	FEDERAL
MUIRFIELD CLUSTER	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2016	2/1/2018	FEDERAL
PENINSULA AT WINDING BROOK	MONITORING/REPORTING VIOLATION	ARSENIC	7/1/2016	10/24/2016	FEDERAL
PIPERS LANDING	M/R ROUTINE LEAD AND COPPER VIO	LEAD AND COPPER RULE	1/1/2018	3/7/2018	FEDERAL
PIPERS LANDING	MON-FAILURE TO COLLECT ADDL ROUTINES	REVISED TOTAL COLIFORM RULE	11/1/2017	1/16/2018	FEDERAL
PIPERS LANDING	MONITORING/REPORTING VIOLATION	INORGANIC CHEMICALS (IOC)	10/1/2017	1/12/2018	STATE
PIPERS LANDING	MONITORING/REPORTING VIOLATION	NITRITE	10/1/2017	1/22/2018	STATE
PIPERS LANDING	MONITORING/REPORTING VIOLATION	SYNTHETIC ORGANIC COMPOUNDS (SOC)	1/1/2017	2/2/2018	FEDERAL
PIPERS LANDING	MONITORING/REPORTING VIOLATION	NITRATE	1/1/2017	1/12/2018	FEDERAL
PIPERS LANDING	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	11/1/2017	1/16/2018	FEDERAL

SALT RIVER CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	7/1/2013	10/9/2013	FEDERAL
SALT RIVER CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2013	10/9/2013	FEDERAL
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANE SULFONIC ACID (PFOS)	7/1/2020		FEDERAL
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANOIC ACID (PFOA)	7/1/2020		FEDERAL
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROHEXANE SULFONIC ACID (PFHXS)	7/1/2020		FEDERAL
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANE SULFONIC ACID (PFOS)	1/1/2020		STATE
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANOIC ACID (PFOA)	1/1/2020		STATE
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANOIC ACID (PFOA)	7/1/2019		STATE
STRATHAM CENTRAL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANE SULFONIC ACID (PFOS)	7/1/2019		STATE
STRATHAM CENTRAL CONDOS	MONITORING/REPORTING VIOLATION	PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)	4/1/2020	9/16/2020	STATE
STRATHAM CROSSING 7621	ACUTE E.COLI MCL VIOLATION	REVISED TOTAL COLIFORM RULE	7/1/2015	8/21/2015	STATE
STRATHAM CROSSING 7621	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	8/1/2014	1/6/2015	FEDERAL
STRATHAM CROSSING 7621	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	7/1/2014	1/6/2015	FEDERAL
STRATHAM CROSSING 7621	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	8/1/2013	5/16/2014	FEDERAL
STRATHAM GREEN CONDOS	DBP M/R	CHLORINE	10/1/2017	2/9/2018	FEDERAL
STRATHAM GREEN CONDOS	DBP M/R	CHLORINE	7/1/2016	12/14/2016	FEDERAL
STRATHAM HILL PARK	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	7/1/2020	9/14/2020	FEDERAL
STRATHAM HILL PARK	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	5/1/2017	7/7/2017	FEDERAL
STRATHAM IRVING/PORTSMOUTH AVE	GROUNDWATER DISCHARGE PERMIT VIO	GROUNDWATER DISCHARGE PERMIT VIO	6/6/2014	6/17/2014	STATE
STRATHAM IRVING/PORTSMOUTH AVE	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE	10/1/2015	1/12/2016	STATE
STRATHAM IRVING/PORTSMOUTH AVE	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	10/1/2015	1/12/2016	STATE

STRATHAM IRVING/STRATHAM HTS	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	1/1/2015	3/20/2015	FEDERAL
STRATHAM IRVING/STRATHAM HTS	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	10/1/2014	1/6/2015	FEDERAL
STRATHAM IRVING/STRATHAM HTS	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	1/1/2013	9/17/2013	FEDERAL
STRATHAM PLAZA	M/R ROUTINE LEAD AND COPPER VIO	LEAD AND COPPER RULE	1/1/2013	9/25/2013	FEDERAL
STRATHAM PLAZA	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	1/1/2015	3/20/2015	FEDERAL
STRATHAM PLZ/MARKET BASKET	GWR-TM MONITORING/ REPORTING VIO	ESCHERICHIA COLI (E. COLI)	1/2/2019	1/30/2019	FEDERAL
STRATHAM PLZ/MARKET BASKET	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANOIC ACID (PFOA)	10/1/2019		STATE
STRATHAM PLZ/MARKET BASKET	MCL / SAMPLE AVERAGE VIOLATION	PERFLUOROOCTANE SULFONIC ACID (PFOS)	10/1/2019		STATE
STRATHAM PLZ/MARKET BASKET	MONITORING/REPORTING VIOLATION	PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)	7/1/2020		FEDERAL
STRATHAM PLZ/MARKET BASKET	REPORTG-FAILR NOTIFY ASSMTS CORRCTD OR NEEDED	REVISED TOTAL COLIFORM RULE	10/1/2019	1/17/2020	FEDERAL
STRATHAM PLZ/MARKET BASKET	TT L1 FAILURE CONDUCT/INADEQUATE CONTENT	REVISED TOTAL COLIFORM RULE		1/29/2019	FEDERAL
STRATHAM PLZ/MARKET BASKET	TT L1/L2 FAILR COMPLT CORR ACTN OR ADDR ECOLI	REVISED TOTAL COLIFORM RULE	10/1/2019	1/17/2020	FEDERAL
STRATHAM WOODS	MON-FAILURE TO COLLECT ADDL ROUTINES	REVISED TOTAL COLIFORM RULE	10/1/2017	1/5/2018	FEDERAL
STRATHAM WOODS	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	10/1/2017	1/5/2018	FEDERAL
SWEET DREAMS BAKERY	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE		2/4/2019	FEDERAL
SWEET DREAMS BAKERY	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE	7/1/2020	9/14/2020	FEDERAL
SWEET DREAMS BAKERY	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE	9/1/2019	12/3/2019	FEDERAL
SWEET DREAMS BAKERY	MON-FAILURE TO COLLECT ROUTINE/REPLACEMENT	REVISED TOTAL COLIFORM RULE	3/1/2019	5/1/2019	FEDERAL
SWEET DREAMS BAKERY	MONITORING/REPORTING VIOLATION	NITRATE	7/1/2019	11/14/2019	STATE

SWEET DREAMS BAKERY	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	7/1/2020	9/14/2020	FEDERAL
SWEET DREAMS BAKERY	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	10/8/2019	12/3/2019	FEDERAL
SWEET DREAMS BAKERY	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	3/1/2019	5/1/2019	FEDERAL
SWEET DREAMS BAKERY	REPORTG-FAILURE /SAMPLE RESULTS	REVISED TOTAL COLIFORM RULE	12/1/2018	2/4/2019	FEDERAL
THORNHILL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2017	7/13/2018	FEDERAL
THORNHILL CONDOS	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2016	10/20/2016	FEDERAL
THORNHILL CONDOS	MCL / SINGLE SAMPLE VIOLATION	COMBINED RADIUM (-226 AND -228)	10/1/2017	7/13/2018	FEDERAL
THORNHILL CONDOS	NON-ACUTE MCL VIOLATION /STANDARD	COLIFORM (TOTAL COLIFORM RULE)	11/1/2013	8/26/2014	FEDERAL
TURNBERRY	CCR REPORT VIOLATION /MAJOR	CONSUMER CONFIDENCE REPORTING	7/1/2014	8/7/2014	FEDERAL
TURNBERRY	DBP M/R	CHLORINE	10/1/2017	2/9/2018	FEDERAL
TURNBERRY	DBP M/R	CHLORINE	7/1/2016	12/14/2016	FEDERAL
VINEYARDS	MCL / SAMPLE AVERAGE VIOLATION	TTHM	1/1/2016	6/7/2016	FEDERAL
VINEYARDS	MCL / SAMPLE AVERAGE VIOLATION	TTHM	10/1/2015	6/7/2016	FEDERAL
VINEYARDS	MCL / SAMPLE AVERAGE VIOLATION	TTHM	7/1/2015	6/7/2016	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2017	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2017	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	10/1/2016	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	7/1/2016	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	4/1/2016	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	MCL / SAMPLE AVERAGE VIOLATION	ARSENIC	1/1/2016	3/22/2018	FEDERAL
WIGGIN FARM WINTERBERRY	SOURCE CAPACITY ISSUES	SOURCE CAPACITY ISSUES		10/23/2017	STATE

Source: NH Dept. of Environmental Services, OneStop, November 2020

Appendix 2. Meeting Agendas and Presentations

Source Water Protection Plan Steering Committee

Stratham Source Water Protection Plan Advisory Committee

February 22, 2021

4:00 – 5:00 PM

NO PHYSICAL LOCATION FOR MEETING

MEETING TO BE ACCESSED THROUGH ELECTRONIC MEANS ONLY **

Join from PC, Mac, Linux, iOS or Android:

https://us02web.zoom.us/j/89978554631?pwd=MVUwN3JlWUl3eE1PYXV3anRXWnJ3dz09

Or Telephone: +1 929 205 6099 US (New York)

Meeting ID: 899 7855 4631; Passcode: 03885

Agenda

I. Introduction
   a. Review related work and place source water protection plan within context of current events in Stratham.
   b. Overview of draft Source Water Protection Plan – see email attachment.

II. Review Recommendations
   a. Are any of the recommendations currently priorities for Stratham?
   b. Should we add any recommendations?
   c. Should we eliminate any recommendations or flag as low priority?

III. Next Steps
   a. Review of implementation components at next meeting (3/4 from 4-5)
   b. Review with Planning Board at 3/17 meeting.
   c. Outreach opportunity.

**IMPORTANT NOTICE: Per State of New Hampshire Executive Orders, the public will be able to access the meeting online via the Zoom link above or by phone by calling (929) 205-6099 and entering Meeting ID#899 7855 4631when prompted. If the public has a problem accessing the meeting at the scheduled time, please contact the Jennifer Rowden, RPC Senior Planner by emailing jrowden@therpc.org.

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Stratham Source Water Protection Plan Advisory Committee

March 4, 2021

4:00 – 5:00 PM

NO PHYSICAL LOCATION FOR MEETING

MEETING TO BE ACCESSED THROUGH ELECTRONIC MEANS ONLY **

Join from PC, Mac, Linux, iOS or Android:

https://us02web.zoom.us/j/89513061380?pwd=NzN1VGlIZ2tOZllaM29vdzA0ZldEdz09

Or Telephone: +1 929 205 6099 US (New York)

Meeting ID: 895 1306 1380; Passcode: 03885

Agenda

IV. Introduction
   a. Review of draft Source Water Protection Plan with updates from 2/22 meeting – see email attachment.

V. Review Implementation Tools
   a. Is Stratham currently focusing on any of these implementation tools?
   b. Are there other implementation tools that could be utilized to achieve source water protection goals?

VI. Review Public Outreach
   a. What public outreach techniques have been successful in Stratham?
   b. What additional public outreach materials (if any) would be helpful?
   c. Input on public outreach meeting for this project

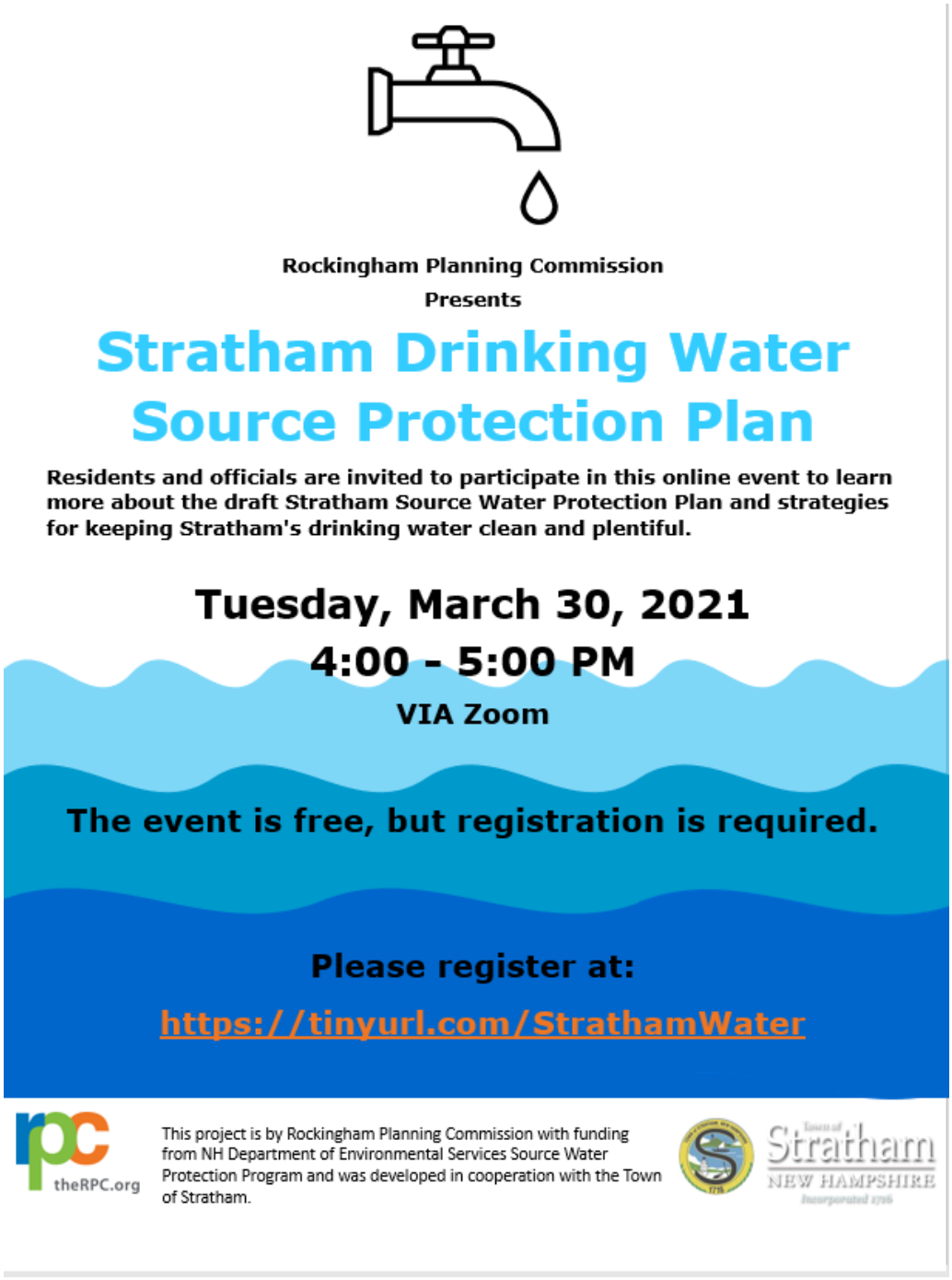
VII. Next Steps
   a. Review with Planning Board at 3/17 meeting.
   b. Outreach event – public and municipal officials.
   c. Complete Source Water Protection Plan—March 31, 2021

**IMPORTANT NOTICE: Per State of New Hampshire Executive Orders, the public will be able to access the meeting online via the Zoom link above or by phone by calling (929) 205-6099 and entering Meeting ID# 895 1306 1380 when prompted. If the public has a problem accessing the meeting at the scheduled time, please contact the Jennifer Rowden, RPC Senior Planner by emailing jrowden@therpc.org.

Stratham Planning Board Presentation

Stratham Public Outreach Meeting Outreach Flyer, Attendance Sheet, and Presentation

Video link of presentation - https://www.youtube.com/watch?v=Mf9wph2YiOE&t=4s



Webinar Attendance Report

Attendee Report		
Report Generated:		
Topic	Webinar ID	Actual Start Time
Stratham Source Water Protection Plan Webinar		3/30/2021 15:38
Host Details		
Attended	User Name (Original Name)	Email
Yes	Jenn Rowden - RPC (Rockingham Planning)	email@therpc.org
Panelist Details		
	User Name (Original Name)	Email
	Jill Longvale	jill.rockinghamplanning@gmail.com
	Mark Conners	mconnors@StrathamNH.gov
	Tim Roache	troache@therpc.org
Attendee Details		
	User Name (Original Name)	First Name
	Sue	Sue
	Debra	Debra
	Joan Chandler	Joan
	Raymond	Raymond
	Scott Longwell	Scott
	Lyndsay Butler	Lyndsay
	Kevin	Kevin
	William	William
	Joe Anderson	Joe
	Hayley Jones	Hayley
	Steven Roy	Steven
	Bryate	Bryate
	Joan Gough	Joan
	Robin	Robin
	Allison	Allison
	Melanie Faulkner	Melanie
	Paul Piraino	Paul
	Jeremy	Jeremy
	Peter Nardone	Peter
	Carol Lynch	Carol
	Veronique	Veronique
	Gene St Pierre	Gene

Appendix 3. Public Outreach Materials

Existing Outreach Materials for Drought

- Drought Guidance for Municipalities https://www.des.nh.gov/organization/divisions/water/dam/drought/documents/municipalemergency.pdf
- Drought Guidance for homeowners on residential wells https://www.des.nh.gov/organization/divisions/water/dam/drought/documents/droughtguidehome.pdf
- Drought Guidance for community water systems https://www.des.nh.gov/organization/divisions/water/dam/drought/documents/pubwatersys.pdf
- Drought guidance for general public https://www.des.nh.gov/organization/divisions/water/dam/drought/documents/publicguide.pdf
- Municipal and Village District Lawn Watering Restrictions During State or Federally Declared Droughts https://www.des.nh.gov/organization/divisions/water/dwgb/water_conservation/documents/mo-lawn-watering-rstrctn.pdf
-
- Role of Water Resources Buffers—residents and business owners may be compelled to maintain buffers to surface waters, wetlands, and vernal pools if they understand the importance of these areas to the health of the resource.
- Sustainable Landscaping and Land Management Practices—education on selecting and installing native plants for landscaping can encourage property owners to replace turf, hardscape, or "thirsty" plant species with low-maintenance varieties that serve pollinators and other wildlife.
- Using Pesticides, Fertilizers, Cleaners, and Hazardous Materials—homeowners should understand the potential impacts of using toxic chemicals on their lawns and in their driveways. Proper disposal is also critical to the health of water resources.
- Maintenance of Septic Systems—well maintained septic systems are an integral component of protecting both groundwater and surface water resources throughout town.
  (pg 48, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)

Appendix 4. Overlap Between Stratham Master Plan and Source Water Protection Plan

The Town of Stratham most recently updated and adopted its Community Master Plan in 2019. Although the Source Water Protection Plan was written independently of the Master Plan, both documents play an important role in protecting Stratham's drinking water. Appendix 4 highlights key concepts and recommendations related to source water protection that are consistent in both plans.

Key Concepts and Focus Areas

Stratham Master Plan Focus Areas and Recommendations	**Stratham Source Water Protection Plan Recommendations**
Modern site development that better cares for the environment (i.e. stormwater quality and waterways). *(pg 22, Chapter: Choosing a Future for Stratham, Section: The Gateway)*	Section 4.2—Impervious Surfaces 1. Limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff. This can be done by adopting the NH Southeast Watershed Alliance Model Stormwater, which in many cases is also required for compliance for the federal MS4 Stormwater Permit. Section 4.3—Stormwater Management Recommendations 1. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality. 2. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. Section 4.3—Septic Management Recommendations 2. Require minimum septic system setback distances from surface water sources. Section 5.6—Stormwater Best Management Practices
Denser developments with more use by the public require access to public utilities such as water and sewer for basic services, as well as fire	Section 4.2—Impervious Surface Recommendations

protection and more sophisticated stormwater management systems. *(pg 24, Chapter: Choosing a Future for Stratham, Section: The Gateway)*	1. Limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff. This can be done by adopting the NH Southeast Watershed Alliance Model Stormwater, which in many cases is also required for compliance for the federal MS4 Stormwater Permit. Section 4.3—Stormwater Management Recommendations 1. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. Section 5.6—Stormwater Best Management Practices
In addition to its farms and historic settings throughout town, Stratham's character is defined in large part by the natural resources that support wildlife and water resources within the larger context of our watersheds. *(pg 44, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 1.2—Why Protect Water Quality?
Water quality in Stratham's surface waters, like the Great Bay Estuary, is threatened primarily by land-based activity. The same sources of pollution can load pathogens, nutrients, metals, and sediment into these water bodies causing significant damage to aquatic ecosystems. Poorly designed drainage systems can pour stormwater into streams at high velocities, causing the banks to scour and erode. In many cases, these water quality and flooding impacts can be mitigated through maintenance of healthy buffers to rivers, streams, and ponds. *(pg 45, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.2—Impervious Surface Recommendations 1. Limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff. This can be done by adopting the NH Southeast Watershed Alliance Model Stormwater, which in many cases is also required for compliance for the federal MS4 Stormwater Permit. 2. Promote land conservation near drinking water supply sources to ensure long-term protection.

	Section 4.3—Stormwater and Septic Management Recommendations **Stormwater** 1. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality. 2. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. 3. Employ road and bridge best maintenance practices to remove pollutants from stormwater runoff. These may include maintaining roadside vegetation, street sweeping, litter control, and minimizing deicer application. 4. Conduct an outreach campaign for residents to increase awareness and encourage behavior change around general stormwater management best management practices, storm drain awareness, lawn and garden care, pet waste, septic system maintenance, motor vehicle care, and household hazardous waste. **Septic** 1. Require septic tank and leach field inspections and maintenance. 2. Require minimum septic system setback distances from surface water sources. 3. Implement a septic replacement incentive program to provide low-interest loans or grants to repair or replace failing septic systems. Section 4.4—Land Use Controls and Land Management Recommendations 1. Promote land conservation near drinking water supply sources to ensure long-term protection.

	2. Prioritize conserving land in the Town's stratified drift aquifers to support groundwater recharge.. This can be accomplished through land purchases, conservation easements, and land trusts. **3.** Work with landowners to implement responsible land and agricultural management practices. These may include lawn maintenance and landscaping practices that limit the amount of pesticides, fertilizers, and water needed. **4.** Implement measures targeted at controlling erosion and sediment loading through improved land management and stewardship, good housekeeping practices at construction sites (ex. on-site vehicle washing, timing construction activities with periods of lower rainfall), and strategic planting of vegetation. **5.** Improve forestry management, including monitoring and maintaining forest roads, pre-harvest planning, establishing no-harvest zones, or reducing harvesting in riparian management zones. **6.** Purchase land or obtain conservation easements near drinking water sources. Section 5.6—Stormwater Best Management Practices
Groundwater is the primary source of drinking water for Stratham's residents, and as discussed above, recharges our surface waters and the Great Bay Estuary. Groundwater quality can be compromised in many different ways and is dependent upon the quality and quantity of water that is allowed to recharge into the soils down to the water table. Accidental leaks or spills of toxic materials can negatively impact groundwater quality where these leaks or spills go undetected and make their way to the water table. Nutrients, particularly nitrogen, can migrate through soils and become mobile in groundwater flow, eventually making their way to surface water habitats. *(pg 45, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 3.2—Known and Potential Contaminant Sources Section 4.1—General Recommendations 1. Consider amendments to groundwater protection ordinance. The NHDES Groundwater Model Ordinance can be adopted in whole or part and includes many of the recommendations included below. 2. Increase the minimum private well radius to 100 feet or more. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be done under site plan and subdivision regulations.

	3. Increase protections along surface waters or conduct water quality planning. 4. Amend current groundwater protection ordinance protection to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This allows protection of current and future public water system without the need to amend zoning or zoning maps. Also, ensure that the description for the location of the study identifying the aquifers is correct. Section 4.5—Best Management Practices Recommendations 1. Consider adopting an inspection program for all potential contamination sources (PCSs) and enforce state groundwater best management practices. See NHDES Fact Sheet Best Management Practices for Groundwater Protection. 2. Consider applying to NHDES for a groundwater reclassification. This mechanism allows a municipality to enforce state groundwater best management rules and conduct inspections on potential contamination sources. 3. Conduct GIS mapping, field surveys, or watershed and water quality monitoring. These activities can help a water system better understand the impacts of land use, pollution discharge, and other human and natural activities on water quality. They can also help to identify and prioritize source lands. 4. Develop or update a contaminant inventory. The inventory should describe individual sources or categories of contaminants within the watershed or aquifer recharge area. 5. Monitor and track contaminant sources based on the contaminant inventory over time.
Another important consideration for groundwater protection is the installation and maintenance of on-site septic systems. Because there is not sewer service in Stratham, every	Section 4.3—Septic Management Recommendations 1. Require septic tank and leach field inspections and maintenance.

property has its own individual septic system. These smaller systems do not treat wastewater as effectively as larger wastewater treatment facilities, which are able to employ more sophisticated technologies because of larger effluent flow and facility size. Throughout New England, different states allow innovative individual septic system technologies on a more limited basis. The New Hampshire Dept. of Environmental Services has approved over a dozen different "innovative and alternative" systems that can be installed at different scales. *(pg 45-46, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	2. Require minimum septic system setback distances from surface water sources. 3. Implement a septic replacement incentive program to provide low-interest loans or grants to repair or replace failing septic systems.
Beyond recreational benefits, forests provide ecoservices in the form of carbon sinks, stormwater retention, good air quality, temperature reduction, wind protection, and effective buffers to surface water resources. *(pg 46, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 1.2—Why Protect Water Quality?
But as land continues to develop in Stratham, smaller stands of forest will become more important to providing corridors for wildlife, preserving localized hydrology, and buffering important surface water resources. *(pg 46, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 1.2—Why Protect Water Quality?
Aquifer Protection District—this section of the Zoning Ordinance limits the types of uses that can occur over sensitive aquifer areas and prescribes performance standards for those uses that are allowed (e.g., limited impervious cover). *(pg 47, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.1—Ordinances and Regulations
Floodplain Management District—these provisions ensure compliance with State requirements for disturbance within regulated floodplain areas and local requirements designed to protect individual properties during a flood, as well as downstream properties. *(pg 48, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.1—Ordinances and Regulations

In addition to these special provisions, Stratham's local regulations address stormwater management, septic system installation, and erosion and sediment control during construction practices. *(pg 48, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.1—Ordinances and Regulations
The other important overarching strategy for protecting natural resources is public education. While some potential negative impacts can be averted through regulating development proposals, the everyday activities of residents and business owners generally occur outside the world of regulation but can be equally harmful to natural resources. Examples of issues that could be included in a public education campaign include: • Role of Water Resources Buffers—residents and business owners may be compelled to maintain buffers to surface waters, wetlands, and vernal pools if they understand the importance of these areas to the health of the resource. • Sustainable Landscaping and Land Management Practices—education on selecting and installing native plants for landscaping can encourage property owners to replace turf, hardscape, or "thirsty" plant species with low-maintenance varieties that serve pollinators and other wildlife. • Using Pesticides, Fertilizers, Cleaners, and Hazardous Materials—homeowners should understand the potential impacts of using toxic chemicals on their lawns and in their driveways. Proper disposal is also critical to the health of water resources. • Maintenance of Septic Systems—well maintained septic systems are an integral component of protecting both groundwater and surface water resources throughout town. *(pg 48, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.5—Public Education Section 6—Public Outreach

Recommendations

Stratham Master Plan	Stratham Source Water Protection Plan
Maintain our parks and natural areas in a way that protects our natural resources and balances the needs of people with varied interests and abilities. *(pg 19, Chapter: Community Vision, Section: Land Use)*	Section 4.4—Land Use Controls and Land Management Recommendations 1. Promote land conservation near drinking water supply sources to ensure long-term protection. **2.** Prioritize conserving land in the Town's stratified drift aquifers to support groundwater recharge. This can be accomplished through land purchases, conservation easements, and land trusts. **3.** Work with landowners to implement responsible land and agricultural management practices. These may include lawn maintenance and landscaping practices that limit the amount of pesticides, fertilizers, and water needed. **5.** Improve forestry management, including monitoring and maintaining forest roads, pre-harvest planning, establishing no-harvest zones, or reducing harvesting in riparian management zones. **6.** Purchase land or obtain conservation easements near drinking water sources. Section 5.3—Land Acquisition
Site design techniques will incorporate best practices related to…environmental sustainability… *(pg 23, Chapter: Choosing a Future for Stratham, Section: The Gateway)*	Section 4.2—Impervious Surface Recommendations 1. Limit impervious surfaces and ensure proper stormwater management and treatment. Over 90% of surface water pollution in the region is caused by stormwater runoff. This can be done by adopting the NH Southeast Watershed Alliance Model Stormwater, which in many cases is also required for compliance for the federal MS4 Stormwater Permit. Section 4.3—Stormwater and Septic Management Recommendations

	Stormwater 1. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality. 2. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. 3. Employ road and bridge best maintenance practices to remove pollutants from stormwater runoff. These may include maintaining roadside vegetation, street sweeping, litter control, and minimizing deicer application. **Septic** 1. Require septic tank and leach field inspections and maintenance. 2. Require minimum septic system setback distances from surface water sources. Section 5.1—Ordinances and Regulations Section 5.6—Stormwater Best Management Practices
For all of these provisions, it is critical that Stratham continues to revise and refine their local requirements to address the realities of development and the ever-evolving best practices that emerge from ongoing research and industry innovation. *(pg 48, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.1—General Recommendations 1. Consider amendments to groundwater protection ordinance. The NHDES Groundwater Model Ordinance can be adopted in whole or part and includes many of the recommendations included below. 2. Increase the minimum private well radius to 100 feet or more. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be done under site plan and subdivision regulations. 3. Increase protections along surface waters or conduct water quality planning.

	4. Amend current groundwater protection ordinance protection to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This allows protection of current and future public water system without the need to amend zoning or zoning maps. Also, ensure that the description for the location of the study identifying the aquifers is correct. Section 5.1—Ordinances and Regulations
Stratham is committed to sustaining the natural resources that are integral to the community's identity and overall health. To achieve success, Stratham will: 1b) Use conservation easements, outright purchase of land, the purchase of development rights, or other mechanisms to extinguish development rights on land that serves as buffers to surface waters, wetlands, or vernal pools, or as recharge areas to important aquifers. *(pg 49, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.4—Land Use Controls and Land Management Recommendations 1. Promote land conservation near drinking water supply sources to ensure long-term protection. **2.** Prioritize conserving land in the Town's stratified drift aquifers to support groundwater recharge. This can be accomplished through land purchases, conservation easements, and land trusts. **6.** Purchase land or obtain conservation easements near drinking water sources. Section 5.3—Land Acquisition
2) Actively participate on the regional advisory groups such as the Squamscott/Exeter River Local Advisory Committee and support the efforts of non-profit and/or community organizations who monitor water quality in and around Stratham. *(pg 49, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.5—Public Education
3a) Ensure existing conditions plans in development applications identify the location and extent of sensitive water resources and wildlife habitat. *(pg 50, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.1—Ordinances and Regulations
3d) Update the Groundwater Protection District provisions to ensure the land use limitations are up to date and site development performance standards are current with best practices. *(pg 50, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.1—General Recommendations 1. Consider amendments to groundwater protection ordinance. The NHDES Groundwater Model Ordinance can be adopted in whole or part and includes

	many of the recommendations included below. 2. Increase the minimum private well radius to 100 feet or more. State requirements are 75 feet; increasing well radius can better protect private wells from contamination from neighboring septic systems, land uses, and influence from other wells. This can be done under site plan and subdivision regulations. 3. Increase protections along surface waters or conduct water quality planning. 4. Amend current groundwater protection ordinance protection to include all aquifer recharge areas and all public water systems' (PWS) wellhead protection areas (WHPA). This allows protection of current and future public water system without the need to amend zoning or zoning maps. Also, ensure that the description for the location of the study identifying the aquifers is correct.
3e) Require or provide incentives for low impact design in sensitive areas like the Wetlands Conservation District and the Shoreline Protection District. *(pg 50, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.3—Stormwater and Septic Management Recommendations **Stormwater** 1. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality. 2. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. **Septic** 1. Require septic tank and leach field inspections and maintenance. 2. Require minimum septic system setback distances from surface water sources. 3. Implement a septic replacement incentive program to provide low-interest loans or grants to repair or replace failing septic systems.

	Section 5.1—Ordinances and Regulations Section 5.6—Stormwater Best Management Practices
3f) Update requirements for erosion and sediment control (during construction) and stormwater management (post-construction) to incorporate the most current best practices. *(pg 50, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 4.3—Stormwater Management Recommendations 1. Increase setbacks for buildings, structures, septic systems and fertilizer application near surface waters and wetlands to help filter stormwater runoff. Requiring buffers remain in a natural state further improves water quality. 2. Use green infrastructure to remove pollutants in stormwater and improve infiltration. Examples of green infrastructure include constructed wetlands, streambank restoration measures, vegetative buffer strips, and detention and retention ponds. 3. Employ road and bridge best maintenance practices to remove pollutants from stormwater runoff. These may include maintaining roadside vegetation, street sweeping, litter control, and minimizing deicer application. Section 4.4 Land Use Controls and Land Management Recommendations 4. Implement measures targeted at controlling erosion and sediment loading through improved land management and stewardship, good housekeeping practices at construction sites (ex. on-site vehicle washing, timing construction activities with periods of lower rainfall), and strategic planting of vegetation. Section 5.1—Ordinances and Regulations Section 5.6—Stormwater Best Management Practices
3h) Review local requirements for on-site septic systems and ensure there are no unnecessary barriers to the installation of innovative systems approved by NHDES. *(pg 50, Chapter: Choosing a*	Section 4.3—Septic Management Recommendations 1. Require septic tank and leach field inspections and maintenance.

Future for Stratham, Section: Sustaining Our Natural Resources)	2. Require minimum septic system setback distances from surface water sources. 3. Implement a septic replacement incentive program to provide low-interest loans or grants to repair or replace failing septic systems. Section 5.1—Ordinances and Regulations
4) Develop and implement a detailed five-year public education work plan related to the natural resource issues identified in this Master Plan. *(pg 50, Chapter: Choosing a Future for Stratham, Section: Sustaining Our Natural Resources)*	Section 5.5—Public Education