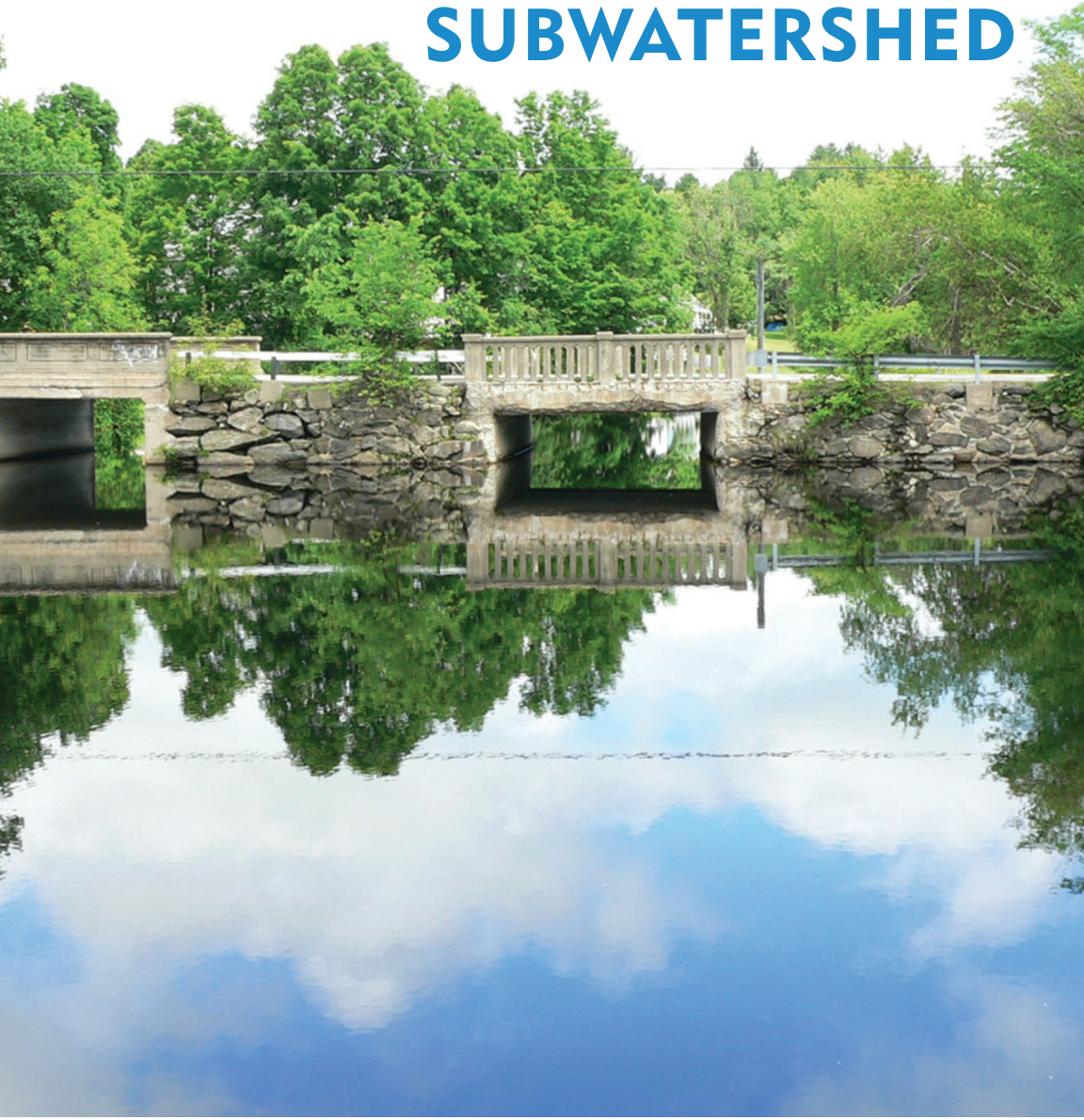
SALMON FALLS RIVER SUBWATERSHED



PISCATAQUA REGION ENVIRONMENTAL PLANNING ASSESSMENT 2015

Salmon Falls River Subwatershed, including:
Acton, Berwick, Brookfield, Lebanon, Middleton, Milton, North Berwick, Sanford, Somersworth, South Berwick, Wakefield

PREP
Piscataqua Region Estuaries Partnership

www.prepestuaries.org

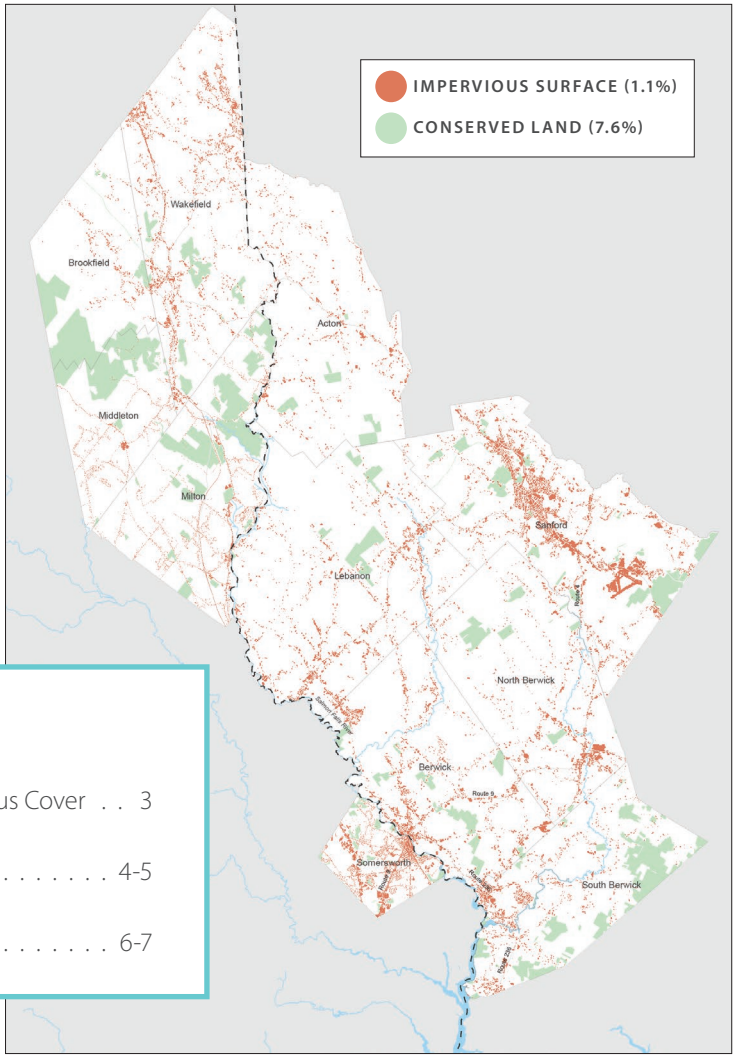
Salmon Falls River Subwatershed

INTRODUCTION

The Salmon Falls River is part of the Piscataqua River drainage basin marking the boarder of Maine and New Hampshire. The Salmon Falls River watershed is approximately 232.5 square miles and includes six communities in Maine and five in New Hampshire (SFWC 2011). Headwaters for the river originate at Great East Lake in Acton, ME and Wakefield, NH.

The river flows approximately 37.5 miles southeast before joining the Cocheco River in South Berwick, ME. The Salmon Falls River is the source of water for the Berwick Maine Water Department and Somersworth New Hampshire Water Works.Approximately 28,000 people currently rely on public water supply sources and an unknown number rely on private wells in the Salmon Falls watershed to provide clean drinking water (SFWC 2011).

Balance is key. PREP recommends no more than 10% impervious cover and no less than 20% conservation land in a watershed.



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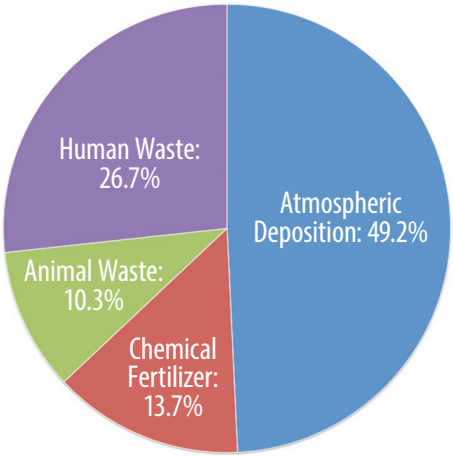


Data source: NHDES Great Bay Nitrogen Non-Point Source Study, 2014. Nitrogen measured in pounds per year.

Nitrogen Loading

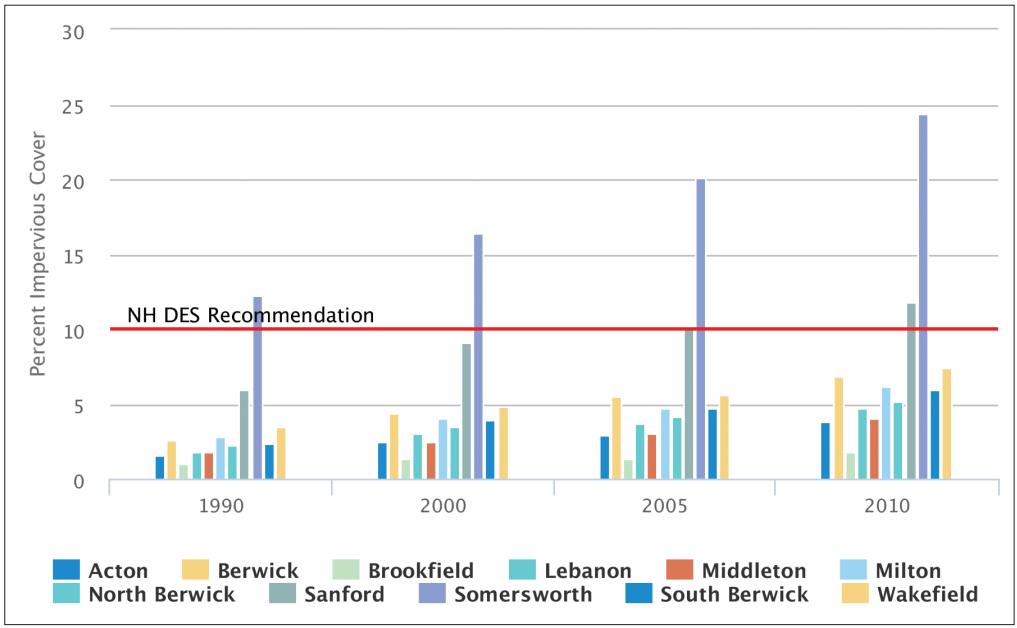
PRIMARY CONTRIBUTOR: ATMOSPHERIC DEPOSITION contributes 178,091.7 pounds of nitrogen per year to the Salmon Falls River Watershed, and nearly 63 percent—or 111,784.8 pounds per year—is deposited on natural vegetation within the watershed. The remaining 37 percent is split between lakes and rivers, disconnected impervious areas, connected impervious areas, agriculture, residential lawns, estuarine waters, and golf courses, parks, and sports fields.

SECOND CONTRIBUTOR: HUMAN WASTE contributes 96,620.8 pounds of nitrogen per year to the Salmon Falls River Watershed, and roughly 93 percent—or 90,015.7 pounds per year—comes from septic systems greater than 200 meters of a waterway. The remaining 7 percent comes from septic systems within 200 meters of a waterway.

Impervious Cover

An overall trend shows an increase in impervious cover for each of the eleven towns from 1990 to 2010. This trend is consistent with the remaining subwatersheds in the Great Bay Watershed. As of 2010, Somersworth (24.4%) and Sanford (11.8%) exceed the NHDES 10% maximum for impervious cover.

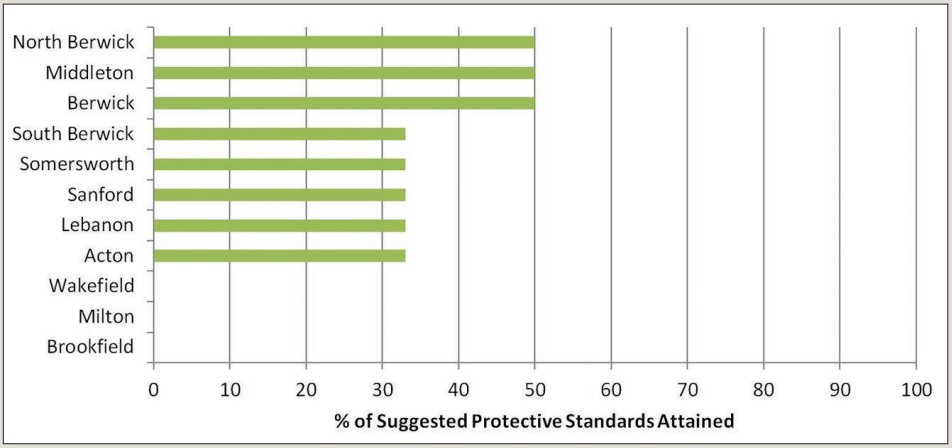
For more info please visit www.PREPestuaries.org/PREPA



Report Cards

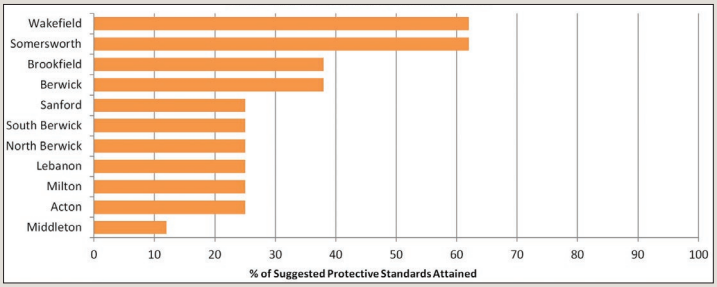
Freshwater Wetland Protection

1. Designated "prime" wetlands (NH) or "significant" wetlands (ME), and adopted local regulations to protect these wetlands?
2. Regulations that offer explicit protection of vernal pools?
3. No soil disturbance or No Vegetation Disturbance buffer requirement that is >= 100 feet?
4. Septic Setback requirement that is >= 100 feet?
5. Building Setback requirement that is >= 100 feet?
6. Fertilizer Application Setback requirement that is >= 100 feet?



Stormwater Management

1. Stormwater management regulations?
2. Less than or equal to 9% Impervious Cover?
3. Minimum area of soil disturbance that "triggers" application of the municipality's stormwater management regulations less than or equal to 20,000 sq. ft.?
4. Cap of 10% effective impervious cover (EIC) for new development in residentially zoned lots of 1 acre or more?
5. Existing regulations require the use of Low Impact Development (LID) techniques to the maximum extent practicable for new/re-development?
6. Stormwater management regulations reflect the minimum design criteria for water quality volume/flow (WQV/WQF), groundwater recharge volume (GRV), and peak flow control defined in the NH Stormwater Management Volume 2?



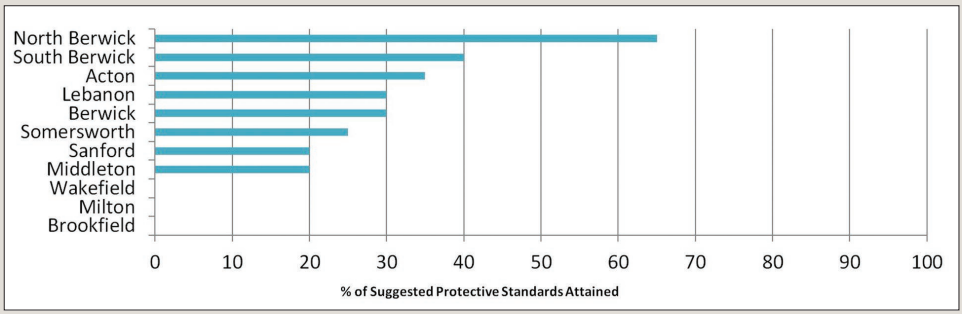
Shoreland Buffers and Setbacks

2nd – 4th Order Streams and Lakes/Ponds

1. No Vegetation Disturbance or Managed buffer requirement that is >= 100 feet?
2. Septic Setback requirement that is >= 100 feet?
3. Building Setback requirement that is >= 100 feet?
4. Fertilizer Application Setback requirement that is >= 100 feet?

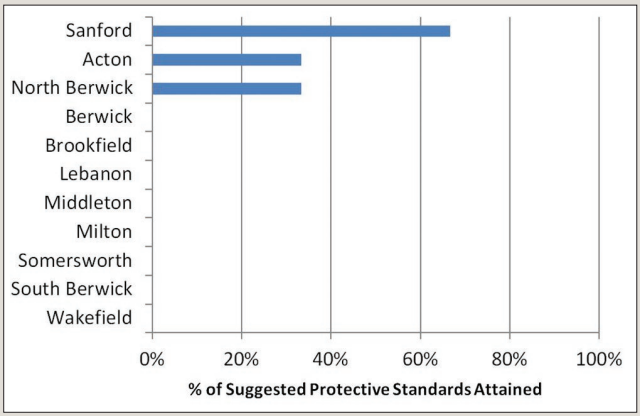
1st Order Streams

5. No Vegetation Disturbance or Managed buffer requirement that is >= 75 feet?
6. Septic Setback requirement that is >= 100 feet?
7. Building Setback requirement that is >= 100 feet?
8. Fertilizer Application Setback requirement that is >= 100 feet?



Climate Change

1. Has the municipality completed some form of climate change vulnerability assessment?
2. Has the municipality completed some form of climate change adaptation planning effort?
3. Has the municipality adopted regulatory changes intended to reduce the municipality's vulnerability to potential climate change impacts?



To explore specific data,
please visit www.PREPestuaries.org/PREPA

Actions by Community

The 2015 PREPA provides a comprehensive review of the current state of municipal regulations in the 52 communities in the Piscataqua Region watershed. Although most communities have taken some steps to protect their natural resources, more work is needed by **every community** in the Salmon Falls watershed.

Resources for implementing these actions can be found on the website www.PREPestuaries.org or contacting PREP at prep.assistance@unh.edu

Community Summary Eight of the communities do not currently have buffer requirements for 1st order streams, of the communities that have protections for 1st order streams, Somersworth is the only community to have protections consistent with the recommended 100′ buffer. Brookfield, Middleton, and Milton have no buffers for 1st-4th order streams or lakes and ponds. Adopting or increasing buffers for all waterbodies should be the priority for towns within the subwatershed.

ACTON

1	2	3	4
Increase buffers on 1st-4th order streams to 100′	Adopt 1000′ fertilizer application buffers for all water bodies	Increase building and septic setbacks to 100′	Work with landowners to conserve land

BERWICK

1	2	3	4
Increase shoreland setback for primary structures to 100′	Adopt 100′ fertilizer application buffers on lakes and ponds	Adopt managed buffer width of 100′	Work with landowners to conserve land

BROOKFIELD

1	2	3	4
Adopt 100′ buffers on 1st-4th order streams	Increase building setbacks from wetlands to 100′	Adopt fertilizer application setbacks for all water bodies	Adopt model stormwater management regulations

LEBANON

1	2	3	4
Adopt 100′ buffers on 1st order streams	Increase structure setback to 100′ on 1st-4th order streams and wetlands	Adopt fertilizer application setbacks for all water bodies	Work with landowners to conserve land

MIDDLETON

1	2	3	4
Adopt 100′ buffers on 1st-4th order stream, ponds, wetlands	Increase structure setback to 100′ for all waterbodies	Adopt fertilizer application setbacks for all water bodies	Adopt model stormwater management regulations

RECOMMENDED ACTIONS

The actions table is not meant to be exhaustive but does reflect a menu of prioritized recommendations for communities. Actions are directly related to the questions found on the PREPA assessment forms and reflects both regulatory and non-regulatory actions.

1 Top Priority Action
2 Second Priority Action
3 Third Priority Action
4 Fourth Priority Action

MILTON			
1	2	3	4
Adopt 100′ buffers on 1st-4th order streams	Increase septic and structure setback to 100′ for wetlands	Adopt fertilizer application setbacks for all water bodies	Adopt model stormwater management regulations

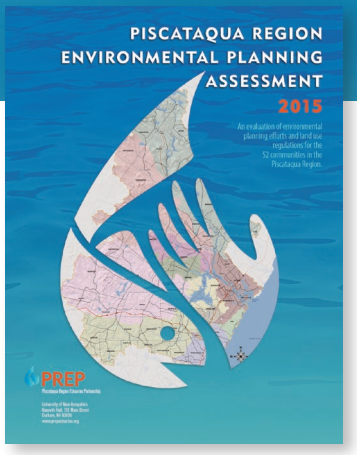
NORTH BERWICK			
1	2	3	4
Adopt 100′ setback for primary structures on 1st order streams	Adopt fertilizer application setbacks for all waterbodies	Adopt mandatory conservation subdivision regulations	Complete a climate vulnerability assessment

SANFORD			
1	2	3	4
Adopt buffers on all waterbodies, including wetlands	Increase septic and structure setbacks to 100′ on all waterbodies	Adopt fertilizer application setbacks for wetlands	Adopt model stormwater management regulations

SOMERSWORTH			
1	2	3	4
Increase septic and structure setbacks to 100′ for all waterbodies	Increase fertilizer application buffer to 100′	Work with landowners to conserve land	Complete a climate vulnerability assessment

SOUTH BERWICK			
1	2	3	4
Increase buffers to 100′ for all waterbodies	Increase setback to 100′ for primary structures	Adopt fertilizer application setbacks for all water bodies	Adopt model stormwater management regulations

WAKEFIELD			
1	2	3	4
Increase buffers to 100′ for all waterbodies	Increase septic and structure setbacks to 100′ for all waterbodies	Adopt fertilizer application setbacks for all water bodies	Work with landowners to conserve land



The full PREPA report features deeper explorations of the data region-wide and gives greater context to the issues.

TAKE ACTION

Resources for implementing these actions can be found on the website www.PREPestuaries.org or contacting PREP at prep.assistance@unh.edu

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