

Indicator: Conservation Lands (general)Question

How much of the land in the 52 communities that make up the Piscataqua Region is permanently conserved or considered public lands?

Short Answer

There has been 130,302 acres conserved as of May 2017; that is 15.5% of the total land area in the 52-town Piscataqua Region. This represents an increase of 5% (41,555 acres) in new land area coming under conservation since 2011. Focusing on the 22 coastal communities in the Piscataqua Region, 49,918 acres of land have been conserved to date. That represents 19.6% of the land area in those 22 towns, and is approaching the PREP goal of 20%.

PREP Goal

Conserve 20% of the watershed by 2020 (from the PREP Comprehensive Conservation and Management Plan, PREP 2010).

Why This Matters

Our region is under pressure from population growth and associated development (see Housing Permits Indicator). Conserving a network of natural lands across the region is the most effective action to take to ensure clean water, healthy and abundant wildlife populations, to minimize flood damages and to provide a diversity of quality recreational opportunities.

Explanation (from the 2018 State of Our Estuaries Report)

In the full 52-town Piscataqua Region there has been 130,302 acres conserved as of May 2017. This amounts to 15.5% of the total land area in the region and represents an increase of 5% in new land area coming under conservation (41,555 acres) since 2011. Of all the acres considered conserved, 82% of them are under permanent protection. An additional focus for this data is on the 22 coastal communities in the region. These are the communities that are tidally influenced in the coastal zone and together are seeing the greatest development pressures. There has been a total of 49,918 acres of land conserved in these communities. This represents 19.6% of the land area in the 22 towns, and is very close to the PREP goal of 20%.

The percentage of conserved land area protected in each town is shown in Figure CG-1. As of 2017, 18 communities have greater than 20% conserved lands, and 9 communities have between 15- 20% conserved lands. Overall, conservation lands have increased across most of the region, but there are still communities where conservation lands as a total percentage of the municipality's land area are below 5% (yellow). Figures CG-1 and CG-2 (HUC-12 analysis) highlight areas where conservation efforts have been significant (+30% of total land area) and these include Great Bay, Exeter-Squamscott, Lamprey River, Oyster River, Pawtuckaway Pond and Scamen Brook-Little River. Conversely, areas where conserved lands are lower include the Cocheco, Salmon Falls, Bog Brook-Little River and Great Works River.

Recent progress suggests the region can meet PREP's goal of 20% of the watershed conserved. Although the 22 coastal communities are very close at 19.6%, region-wide an additional 37,700 acres will need to be conserved in order to achieve the goal.

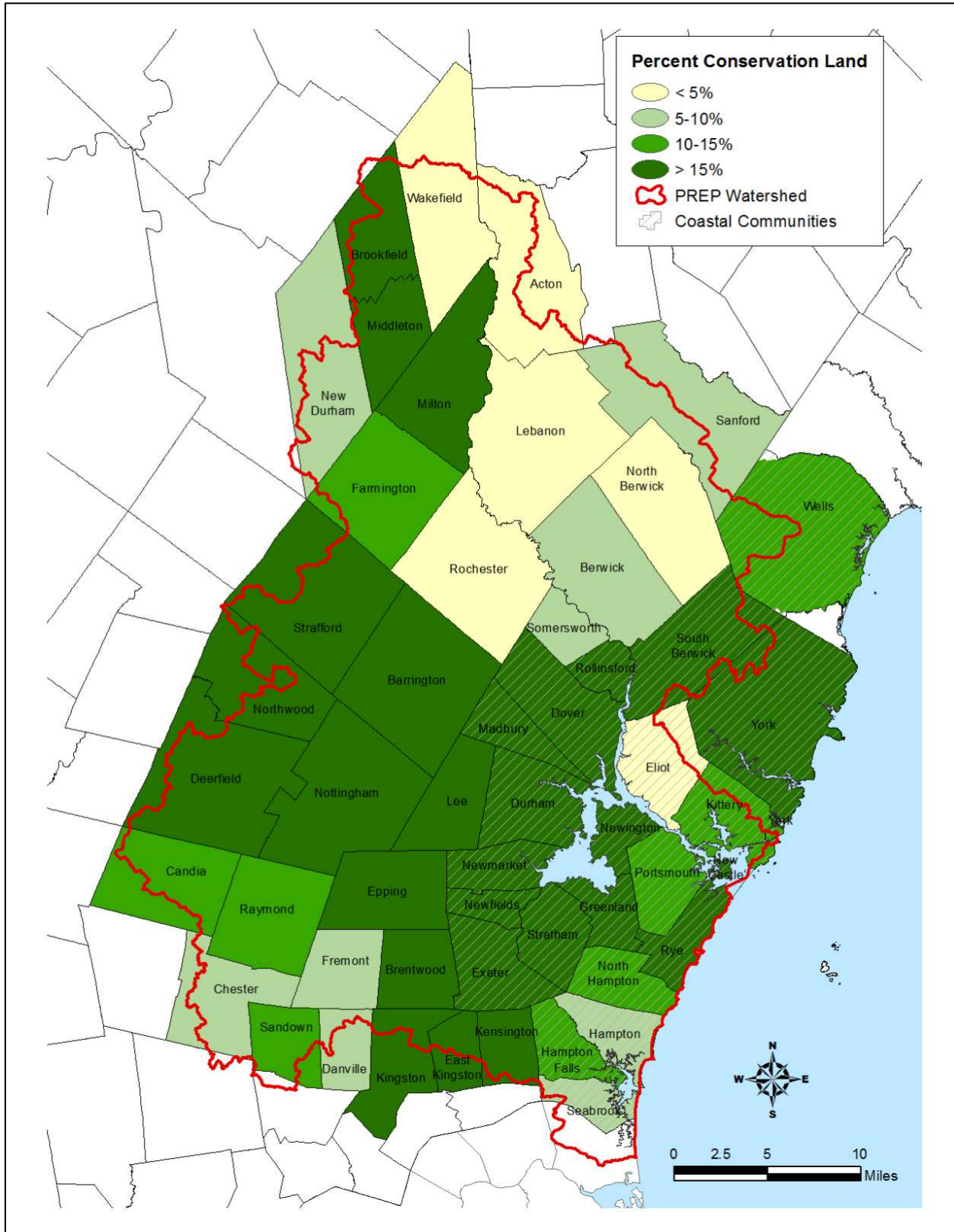


Figure CG-1. Land conservation by percent of total land area for each Piscataqua Region community.
 Data Source: NH GRANIT.

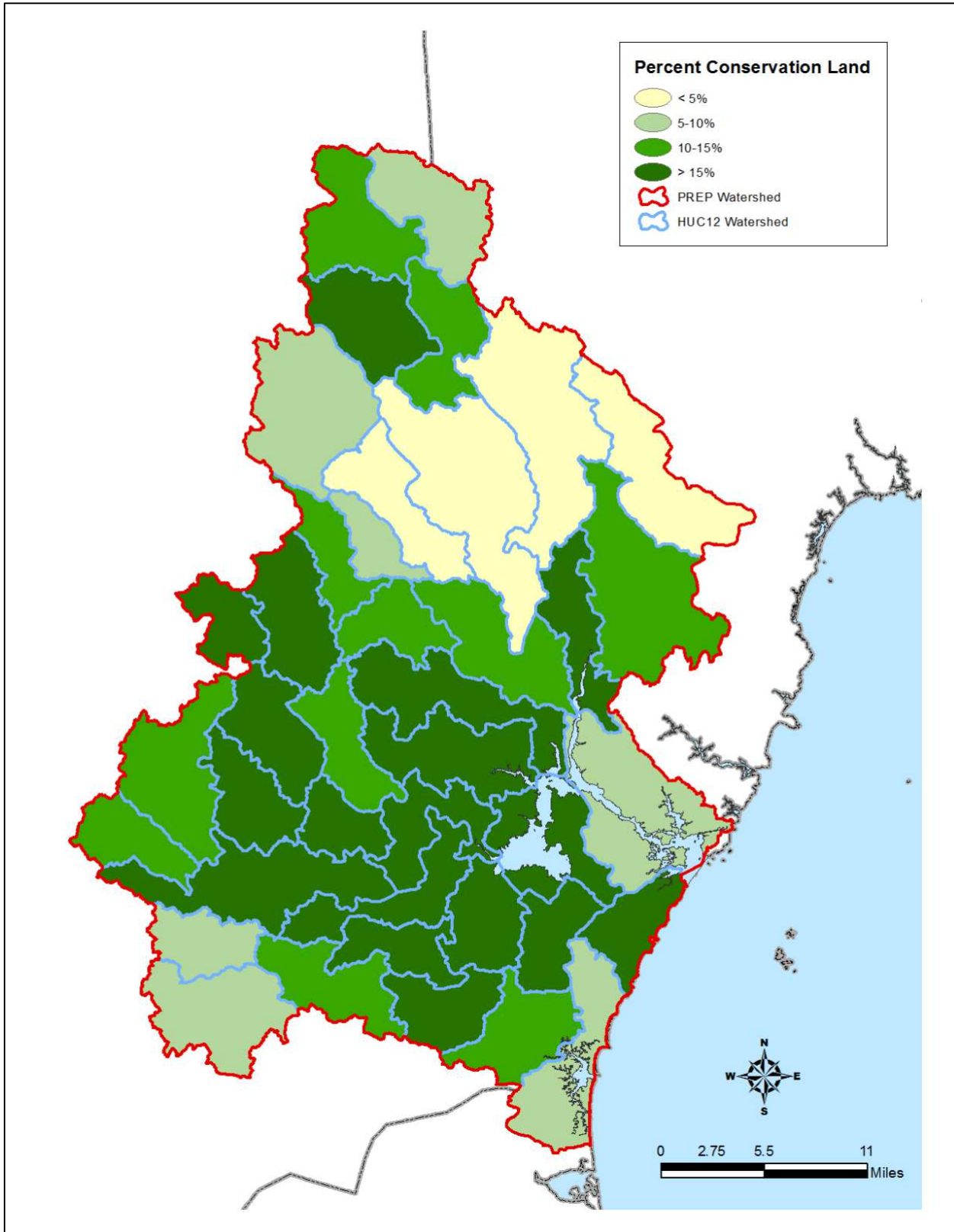


Figure CG-2. Land conservation by percent of total area for each subwatershed (HUC-12). Data Source: NH GRANIT.

Methods and Data Sources

The Maine and New Hampshire databases were queried to identify the conservation lands within the Piscataqua Region watershed (HUC8 01060003). The total acres of public and private conservation lands in the watershed, and the 22 coastal communities in the watershed, were calculated by summing the land area of individual conservation polygons (Table CG-1).

The land area was calculated by subtracting the areas of surface waters from the town boundary polygons. To determine the area of surface waters, GRANIT combined the relevant National Hydrography Dataset Waterbody features (with FType = 390 "LakePond," 436 "Reservoir," and 493 "Estuary") and Area features (with FType = 336 "CanalDitch," 364 "Foreshore," 403 "Inundation Area," 431 "Rapids," 445 "SeaOcean," 455 "Spillway," and 460 "StreamRiver.") The percentage of the Piscataqua Region watershed that is conserved was calculated by dividing the total acres of conservation land by the total land area of the watershed. The same method was used to determine the percent of conservation lands in the 22 coastal communities.

Conservation lands were grouped into "permanent," "unofficial," and "unknown" categories using the protection level fields in each state database (Table CG-2). Permanent conservation lands are protected from development through legally enforceable mechanisms, such as conservation easements, deed restrictions or ownership by an organization or agency whose mission emphasizes land protection. Unofficial conservation lands are not permanently protected; rather, they are owned by a public agency or private organization with the stated intent of protecting the land. The "unknown" designation is self-explanatory.

Data Sources

The most recent dataset of conservation lands from the Maine Office of GIS for the Maine towns and NH GRANIT for the New Hampshire towns were the primary data sources for this indicator.

References Cited

PREP 2010. Piscataqua Region Comprehensive Conservation and Management Plan, Piscataqua Region Estuaries Partnership: D.B. Truslow Associates, Mettee Planning Consultants, 2010, Durham, NH.
<http://scholars.unh.edu/prep/22/>

Table CG-1: Conserved land in the Piscataqua Region communities (municipalities).

Town Name	Conservation Lands 2017 (acres)	Town Area (acres)	Percent Conservation 2017
Barrington, NH	4,705.8	29,719.0	15.8
Brentwood, NH	3,107.1	10,728.1	29.0
Brookfield, NH	3,231.4	14,593.0	22.1
Candia, NH	2,400.4	19,328.9	12.4
Chester, NH	1,310.7	16,606.2	7.9
Danville, NH	679.9	7,438.7	9.1
Deerfield, NH	6,953.2	32,575.7	21.3
Dover, NH*	3,271.3	17,036.9	19.2
Durham, NH*	6,486.3	14,251.1	45.5
East Kingston, NH	1,054.1	6,318.0	16.7
Epping, NH	4,570.0	16,476.6	27.7
Exeter, NH*	4,095.6	12,540.6	32.7
Farmington, NH	2,406.9	23,213.0	10.4
Fremont, NH	1,055.8	11,033.1	9.6
Greenland, NH*	1,451.9	6,722.5	21.6
Hampton, NH*	760.6	8,287.3	9.2
Hampton Falls, NH*	1,139.6	7,719.6	14.8
Kensington, NH	1,871.0	7,616.4	24.6
Kingston, NH	2,471.3	12,494.3	19.8
Lee, NH	3,208.7	12,685.0	25.3
Madbury, NH*	1,804.4	7,383.6	24.4
Middleton, NH	2,449.7	11,559.0	21.2
Milton, NH	3,813.2	21,088.6	18.1
New Castle, NH*	106.9	506.2	21.1
New Durham, NH	2,000.5	26,345.5	7.6
Newfields, NH*	1,321.7	4,540.8	29.1
Newington, NH*	1,349.6	5,214.5	25.9
Newmarket, NH*	1,973.8	8,034.5	24.6
North Hampton, NH*	1,308.9	8,861.8	14.8
Northwood, NH	3,021.9	17,965.0	16.8
Nottingham, NH	9,241.7	29,839.7	31.0
Portsmouth, NH*	1,417.1	10,003.5	14.2
Raymond, NH	1,936.9	18,438.3	10.5
Rochester, NH	1,415.3	28,329.2	5.0
Rollinsford, NH*	763.5	4,681.3	16.3
Rye, NH*	1,693.4	8,053.4	21.0
Sandown, NH	1,052.3	8,888.5	11.8

Table CG-1 (cont'd)

Town Name	Conservation Lands 2017 (acres)	Town Area (acres)	Percent Conservation 2017
Seabrook, NH*	508.8	5,664.7	9.0
Somersworth, NH	406.2	6,219.2	6.5
Strafford, NH	8,915.2	31,151.8	28.6
Stratham, NH*	1,692.0	9,655.1	17.5
Wakefield, NH	1,021.7	25,264.0	4.0
Acton, ME	570.8	24,216.3	2.4
Berwick, ME	1,304.4	23,779.6	5.5
Eliot, ME*	619.2	12,609.4	4.9
Kittery, ME*	1,695.6	11,378.2	14.9
Lebanon, ME	958.6	34,957.8	2.7
North Berwick, ME	847.2	24,265.1	3.5
Sanford, ME	2,401.9	30,314.8	7.9
South Berwick, ME*	3,987.5	20,468.8	19.5
Wells, ME*	4,588.7	36,427.3	12.6
York, ME*	7,882.1	34,913.8	22.6
TOTAL:	283,623.4	1,935,631.4	15.5%
Coastal Community TOTAL:	63,349.4	399,539.3	19.6%

* = Coastal Community

All reported acreages refer to land area only; surface water areas not included.

Acreages are reported for entire town; several towns are only partially within the Piscataqua Region watershed.

Table CG-2: Conservation lands in the Piscataqua Region Watershed 2017

Protection Type	New Hampshire	Maine	Total	% of Total
Permanent	83,100.3	23,156.6	106,256.9	81.5%
Unofficial	16,088.9	1,675.1	17,764.0	13.6%
Unknown	6,257.2	24.2	6,281.4	4.8%
Total	105,446.4	24,855.9	130,302.3	100.0%
% of Total	80.9%	19.1%	100.0%	