New Hampshire’s Changing Climate, Land Cover, and Ecosystems

The old adage suggests that the three most important things to consider when buying real estate are location, location, location. To test this in terms of access to natural environments and outdoor recreation opportunities, we estimated the implicit value of proximity to natural amenities (such as trails, conservation areas, parks, water, sports fields, golf courses, and cemeteries) to home prices in twelve communities across southern New Hampshire.

The results of our analysis show that there are significant effects on home prices of many natural amenities that are within viewing (quarter of a mile), walking (a mile), or driving (four miles) distance. Lake access, trails, and conservation areas have a significant positive effect on home prices (at greater than 10% of the value of the home) at closer distances (WALK and VIEW in Figure 1), while access to streams and rivers are valued more highly at walking and driving distances. Close proximity to designated hunting areas, campsites, and golf courses negatively impacts home values. A one percent increase in forested area within viewing, walking, or driving distance increases home values by 3-6%, while agricultural land within viewing or walking distance negatively impacts home values (Figure 2). For homes on or near water, an increase in the days when water quality is compromised negatively impacts home values.

The “New Hampshire advantage” is an expression that sometimes refers to the Granite State’s lack of income and sales tax. But for many, the state’s advantages also include clean air, clean water, abundant natural resources, and a plethora of recreational opportunities.

Our results support the latter interpretation: proximity to a range of natural amenities can substantially increase the value of a home. Our results essentially provide a benefit-cost analyses of conservation land programs – protecting natural amenities serves to increase property values and therefore has a positive effect on property tax revenues.

Estimating future values and benefits allows municipal decision-makers to assess the economic impact of development versus conservation. In addition, information on values accorded to environmental amenities can be used to help towns and cities estimate the effect on their tax bases of various types of land cover surrounding a home.

THE VALUE OF AN ADDITIONAL ACCESS TO A NATURAL AMENITY

![Figure 1](image1)

**Figure 1.** Impacts on home prices of additional access to natural amenities. For example, additional trail access within walking distance of a home results in an approximately 15% increase in sale price.

THE VALUE OF “GREENNESS” AND CLEAN WATER

![Figure 2](image2)

**Figure 2.** Impacts on home prices of a unit change in several environmental measures. For example, a one percent increase in forested area within viewing distance of a home (quarter mile) is associated with a 6% increase in sale price. Conversely, a one percent increase in areas cleared for agriculture within viewing distance of a home is associated with a 3.5% decrease in sale price. An additional day when water quality is compromised is associated with an approximately 5% decline in sale price at all distances.
METHODS

We used a revealed preference method of estimating the natural amenity value (termed a hedonic approach in economics) associated with the proximity of a house to habitats, conservation areas, trails, and other natural amenities in twelve towns in New Hampshire (Bedford, Bow, Dunbarton, Epping, Farmington, Litchfield, Madbury, Middleton, Milton, Pelham, Stratham, and Windham). We analyzed housing transactions for selected towns in 2015. Our study focused on towns that had experienced increasing development pressure and changes in the areal extent of open space across a range of socioeconomic indicators over the past one to two decades.

REFERENCES


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