CHAPTER 3:

SOCIOECONOMIC CONDITIONS

INTRODUCTION

This chapter of the EIS addresses the impact of extending the Land Acquisition Program on socioeconomic conditions in the watershed regions. The assessment covers several types of potential socioeconomic impact, including the Program's potential impact on:

- The supply of land available for future development, and on whether this supply is expected to sufficiently accommodate projected growth;
- The price of land and the affordability of housing;
- Selected industries or activities that are particularly dependent on the availability of land;
- Other commercial activity; and
- Local government revenues.

Chapter 3 first addresses the Extended LAP's impact on socioeconomic conditions in the West-of-Hudson watershed region. It provides an overview of the methodology used in analyzing socioeconomic impact; describes current socioeconomic conditions in the region; describes future conditions without the proposed action; and assesses the impact of the proposed action in the arenas outlined above.

An assessment of the Program's potential impact on socioeconomic conditions in the East-of-Hudson watershed region follows. While the analytical framework is broadly the same as that used in assessing the Program's impact west of the Hudson, our findings are presented in less detail, due primarily to the much smaller scale of projected acquisitions in the East-of-Hudson region.

WEST-OF-HUDSON

METHODOLOGY

This section describes the approach used in assessing the potential impact of the proposed action on the supply of developable land in the West-of-Hudson watershed towns, on land prices and the affordability of housing, on selected industries and commercial activity within the towns, and on local government revenues. Because it addresses some of the most critical issues regarding LAP's future potential impact, we begin with a detailed discussion of the methodology used in assessing the Program's impact on the supply of developable land.

The socioeconomic analysis is based on a "reasonable worst case scenario" developed for EIS purposes so that socioeconomic impacts are not underestimated.

Estimating the Potential Impact of LAP on the Amount of Developable Land

This section describes in detail the process used to estimate the impact of LAP through 2022 (10 Year Projection Scenario) and 2027 (15 Year greater Impact Scenario) on the supply of developable land in watershed towns.

First, seven towns in which less than 5 percent of the town's total area lies within the boundaries of the watershed were screened out. An evaluation was conducted to ensure that there is not a disproportionate concentration of developable land in the watershed portion of these towns. As shown in Table 3-1, which highlights the characteristics of the watershed portion of these seven towns, this is not the case: in each of these portions of the towns, there are either low density uses, little potential for new development, or very little land projected to be acquired under LAP.

Table 3-1: Towns with less than 5 percent of the town's total area lies within the watershed

Town	Total acres	Acres in watershed	% in watershed	Land Uses in Watershed	Acres acquired by LAP, 1997-2009	Est. acres to be acquired by LAP, 2010-2022
Sidney	32,280	601	1.90%	Almost all low-density residential and private vacant land; No agricultural or commercial uses	0	21
Broome	30,805	41	0.10%	30 acres of state-owned land; a few high-density residential parcels	0	0
Fallsburg	50,609	1,002	2.00%	About 39% is state-owned, pre-MOA City-owned or LAP-acquired land; the rest is a diverse mix of vacant and low-density residential land (about 33%) and high-density residential or commercial uses (29 %)	251	84
Liberty	51,629	238	0.50%	About 49% vacant and low-density residential land; about 18% high-density residential; no data on 33%	0	9
Kingston	4,709	6	0.10%	A mix of residential and commercial uses	0	0
Marbletown	35,197	256	0.70%	Almost entirely reservoir or pre-MOA City-owned land	0	0
Rochester	57,098	1,996	3.50%	87% is state-owned land; the remainder mostly vacant or low-density residential; no commercial or agricultural uses	17	64

10 Year Projection Scenario

After screening out these seven towns, a four-step process was used to estimate the impact of the LAP program on the remaining 34 West-of-Hudson towns through 2022. These four steps are:

Step 1: Determine available developable land as of 2009;
Step 2: Project housing demand through 2022;
Step 3: Project LAP acquisitions through 2022; and
Step 4: Estimate remaining developable land in 2022 after housing demand and LAP.

Step 1. Determine available developable land in each town as of 2009

To determine the amount of available developable land in the towns as of 2009, data from the New York State Office of Real Property Services (ORPS) and NYCDEP's geographic information system (GIS) were used to identify privately-owned vacant and low-density residential land in each town that could be developable. For purposes of this analysis, developable land includes all privately-owned vacant and low-density residential land (defined as residential parcels of 15 or more acres, reduced by 5 acres per parcel to account for the existing residence on each parcel). These criteria would also be consistent with the Enhanced Land Trust and Forest Conservation Easement programs, which could also acquire lands from this pool.

The GIS was used to exclude acreage from this pool of land which has features that are typically unsuitable for development:

- 100-foot buffer on streams and waterbodies,
- 300-foot buffer on reservoirs 100-year and reservoir stems,
- DEC-mapped wetlands with a 100-foot buffer,
- federal jurisdiction wetlands with no buffer,
- FEMA 100-year floodplains,
- slopes of greater than 15 percent,; and
- slow infiltrating soils (NRCS Hydrological Soil Group D)[1]

In addition to considering vacant and low-density residential-coded parcels in the pool of available developable land, an alternate calculation was developed that included agricultural land as well. The purpose of this alternate calculation and the method in which it was used are described in more detail in step 4 below.

[1] The Ulster County Soils data appear to be flawed and were not used for the Ulster County developable land analysis. Due to the overlap between this soil class and the other criteria used in defining developable land, particularly the steepness of slopes in these Ulster towns, it is not expected that this significantly affected the analysis.

Step 2. Estimating demand for land for residential development from 2010 through 2022

The second step in our analysis was to estimate trends in residential development in West-of-Hudson watershed towns for the period from 2010 through 2022. To estimate future growth, recent trends were evaluated. Three types of data were reviewed:

- Building permits issued for new housing units in watershed towns between 1997 and 2008;[1]
- U.S. Census data on numbers of housing units by town in 1990 and 2000, and an estimate of housing units for 2008;[2] and
- Data from the ORPS on the date the residence on each residential parcel was built (so-called "year-built" data), focusing in particular on those built between 2001 and 2009.[3]

Data from all three sources were compared to estimate new units per year for the time periods associated with each data set. It should be noted that all three data sources have limitations. For some watershed towns, year-built data are not available. Neither year-built data nor data on building permits allow us to distinguish between new units built on previously undeveloped land and those built on land previously occupied by older residences; nor do they take account of structures that have been demolished but not replaced. They may thus overstate the total amount of land consumed by new residential construction. Data on the total number of units in the town avoid this problem – they allow tracing of net changes in the towns' housing stock. As noted above, however, the data for 2008 are estimates; more precise counts will be available only when 2010 census data are released.

For purposes of developing a "reasonable worst case scenario," for the EIS, the analysis used whichever of the new-units-per-year estimates derived from the three data sets was highest to project the total number of new residential units that might be developed in each town between 2010 and 2022. (In towns where year-built data were not available, the higher of the two other estimates was used,) This represents a conservative approach, in that it may for the reasons cited above result in an overstatement of the rate of expected new residential development, and of the amount of land needed for this purpose.

Beyond using the highest of the three "units per year" values, basing the estimate of land required for residential development on the rate of development during the past two decades also makes the analysis more conservative. The demand for housing that drives residential development in the West-of-Hudson region is fueled partly by population growth and partly by the market for second homes. Population growth in the region, however, is likely to be considerably slower through 2022 than it has been in the past decade. Demand for second homes is also likely to be constrained – by a slow recovery from the recession that began in 2008, and by more conservative mortgage lending practices. For the next several years, demand in this sector appears unlikely to return to the levels seen earlier in this decade. (The impact of these factors is discussed in greater detail below; see the discussion of "Future Conditions without the Project," p. 3-36.)

To estimate the number of acres consumed by each future residential unit developed, data obtained from ORPS was used to determine the median residential lot size in each town for residential lots

[1] Source: U.S. Census Bureau

[2] Sources: U.S. Census Bureau provided data for 1990 and 2000; DemographicsNow provided data for 2008.

[3] Source: New York State Office of Real Property Services (ORPS)

larger than one acre[1]. The proportion of *developable* land to be consumed by each projected future residential parcel was estimated based on the percentage of existing high-density residential land (smaller than 15-acre lots) that is developable within the watershed portion of each town.[2] Because smaller, higher-density lots typically include a higher percentage of developable land, this approach is more conservative than using the average developable percentage for all residential land – that is, it yields a higher estimate of the developable acreage needed to support new residential development.

To estimate the total developable acreage required to support residential development in each town through 2022, we multiplied:

- The total number of housing units projected per year, by
- The number of acres per unit, by
- The percentage of those acres that are considered to be developable, by,
- 12 years.

Note that demand for commercial and industrial land consumption was not projected. Such land represents less than 2 percent of watershed lands and; and NYCDEP generally does not acquire properties used for commercial or industrial purposes. Moreover, a significant portion of the region's commercial activity is concentrated in hamlet areas, where NYCDEP generally does not acquire land. These uses are discussed in the document under Impacts on Industries and Businesses.

Step 3. Estimate future purchases of developable land by NYCDEP under the Land Acquisition Program

Acres of fee, conservation easement (CE) and Watershed Agricultural Council (WAC) easement land that could be acquired through 2022 were projected for each town. Fee and CE acquisitions were projected using the acres of remaining solicited land by town[3], combined with an assumed future success rate by town. The future success rate, by town, was determined using the Program's county-wide historical success rate as a starting point. This county level approach tends to account for regional differences, without being overly tied to past results, which can be greatly influenced by specific large acquisitions. The average county success rate was then increased for those towns that are in "areas of high focus" according to the Long-Term Land Acquisition Plan – that is, areas of particular significance in terms of potential impact on water quality. To develop a reasonable worst-case scenario, the overall success rate was forecast to be higher than previous success rates so that the total amount of land acquired would conservatively be estimated as higher in the next 12 years than in the past 12 years. This result is not expected to occur; the estimate is used as an outer bound for EIS purposes.

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[1] Lots under one acre were excluded since they typically represent older residential development in historic town centers and are thus not reflective of the predicted size of future development.

[2] Source: NYC DEP data based on ORPS and other sources.

[3] There may be some land in watershed towns that is eligible for acquisition in fee simple or through conservation easements, and could thus potentially be solicited, but has not yet been solicited. Properties that have already been solicited represent by far the greatest part of all remaining land that would be eligible for acquisition under the Extended LAP, although there may be some land that is eligible that has not been solicited. Already-solicited land thus represents a reasonable proxy for land that could potentially be acquired in the future.

To estimate how much of the land projected to be acquired by NYCDEP in each town would be developable, two alternative measures were used and the higher selected for each town:

- The percentage of fee and CE land acquired under LAP between 1997 and 2009 that is defined as developable;[1] and
- The percentage of all remaining privately-owned vacant and low-density residential land defined as developable as of 2009.

For each town, we then estimated the total number of *developable* acres that NYCDEP is likely to acquire through 2022 by multiplying NYCDEP's projected fee and CE acquisitions by the higher of these two percentages.

Step 4. Estimate remaining developable land in 2022 after accounting for LAP acquisitions and housing development

Lastly, we projected the amount of developable land remaining in each town in 2022 after 12 years of residential development and LAP acquisitions. We subtracted from the developable acres available in each town as of 2009 (Step 1) the developable acres projected for housing development through 2022 (Step 2) and the developable acres projected for LAP activity through 2022 (Step 3). Based on these results, we calculated the percent of the 2009 level of developable land in the town that is projected to be available for development as of 2022.

The Natural Features Criteria thresholds were not considered in the analysis of impacts on developable land in the EIS. This approach is conservative for purposes of the socioeconomic impact analysis because the new thresholds will minimize any adverse socioeconomic effects by reducing the types of land the City can acquire.

As discussed in Chapter 1, Riparian Buffer Program would involve the acquisition of small parcels along streams, wetlands and other water features. Towns that exclude LAP acquisitions in designated areas may nonetheless opt to allow acquisition of riparian buffers in such areas. Since much of this land is already constrained by regulatory buffers and physical limitations on development, the RBP is not expected to have a large impact on the supply of developable land in towns where it is implemented. The amounts of land protected under the RBP are subsumed within the amounts projected under the Extended LAP for purposes of this EIS.

Assumptions on Agricultural Land

As noted in Step 1, the definition of "available developable land" used in this analysis included only privately-owned vacant land and low-density residential land (that is, residential parcels of 15 acres or larger) that met the screening criteria for developable land. No agricultural land was included in this definition of available developable land – even though a substantial portion of the region's agricultural land would meet the screening criteria for developable land outlined above. As a result, the estimates of the supply of developable land used in the analysis are probably somewhat conservative. Because agricultural land was excluded from estimates of the supply of developable land in each town, WAC agricultural easements were also excluded from the estimates of developable land that would be acquired by LAP in each town through 2022 (Step 3 above).

[1] Source: NYC DEP land acquisition database.

In order to ensure that the definition of developable land used in the analysis was consistent with the requirement to base the analysis on a "reasonable worst-case scenario," an alternative definition that included agricultural land that met the screening criteria listed under Step 1 was also tested. In this alternative, WAC easements were *included* in the estimates of land to be acquired in each town by LAP through 2022.

As might be expected, these two approaches yield somewhat different results in terms of the percentage of the current supply of developable land that still remains in 2022. In most towns, excluding agricultural land from the supply of developable land results in a lower percentage of developable land remaining in 2022. In a few cases, however – where NYCDEP expects a relatively high percentage of all agricultural land to be covered by WAC easements – including agricultural land yields a lower percentage of developable land remaining in 2022. For each town, we applied whichever method produced the lower estimate of developable land remaining in 2022.

15 Year Greater Impact Scenario

This scenario discusses the potential impacts of the Extended LAP over 15 years, in which NYCDEP acquires 10 percent more land than projected through 2022, This scenario was originally part of the "Greater Impact Alternative" under the DEIS. The analysis for this scenario is considered to be an extremely conservative (i.e. high impact) estimate of land to be acquired under the Extended LAP. The 10 year projections described in Chapter 1 use very conservative assumptions to estimate the amount of land to be acquired under the Extended LAP. It is highly unlikely that, even under a 15 Year Permit, the Water Supply Permit, additional land would be acquired beyond the levels analyzed projected through 2022. Nevertheless, NYCDEP is providing a 15 year analysis that examines acquisitions of 10 percent more land.

This scenario uses the same four-step process as described above to project remaining developable land but here to 2027 instead of 2022:

Step 1: Determine available developable land as of 2009;
Step 2: Project housing demand through 2027 ;
Step 3: Project LAP acquisitions through 2027; and
Step 4: Estimate remaining developable land in 2027 after housing demand and LAP.

Assessing Impacts on Land Prices and the Affordability of Housing

Evaluation of the potential impact of the proposed action on the price of land and (indirectly) on the price of housing and affordability included:

- Analysis of data obtained from the ORPS on arms-length sales of privately-owned vacant land in watershed towns, for the period 2001-2009, to determine trends in the price of land;
- Comparison of price trends in watershed towns with prices in nearby non-watershed towns;
- Exploring the potential relationship between the rate at which land prices have risen in various areas within the watershed region, and the extent of LAP acquisitions in those areas;
- Analysis of the scale of NYCDEP's acquisitions relative to the overall size of the of the market for watershed land (in terms of both numbers of transactions and total acreage, and of how this relationship varies within the watershed and over time);
- Exploring the implications of any potential impacts on land prices for socioeconomic conditions in the region;

- Analysis of data from the ORPS on sales of single-family homes in watershed towns between 2001 and 2009;
- Review of data on median family income and poverty levels, and analysis of changes in the percentage of median family income needed to finance the purchase of a median-priced home in various areas within the watershed; and comparison of these trends with those in non-watershed towns;
- Exploring the potential relationship between the rate at which home prices have risen in various areas within the watershed region, and the extent of LAP acquisitions in those areas;
- Review of data on locations of affordable housing and other factors affecting the affordability of housing in the watershed region; and
- Interviews with representatives of affordable housing organizations in the region.

Estimating Impacts on Industries and Businesses

The EIS evaluates the potential impact of the proposed action on several industries and types of activity that could be affected either positively or negatively by LAP. The evaluation focuses primarily on several land-based industries and activities that could be particularly affected by further acquisitions of watershed land under LAP, including agriculture, mining, forestry and outdoor recreation. The program's potential impact on commercial activity more broadly is also considered.

For each sector, available data were reviewed on numbers of businesses, employment, and economic productivity and overall trends. An assessment is provided of how much land related to these types of businesses LAP has acquired in the past and the extent to which related uses are allowed on LAP and WAC lands. Based on this information, the impacts of future LAP acquisitions were assessed. Sources of data used in the analysis are listed below in Table 3-2.

Table 3-2: Sources of data used in the analysis of industry impacts

Agriculture
U.S. Census of Agriculture
National Agricultural Statistics Service
U.S. Department of Commerce, Bureau of Economic Analysis – data on farm employment and income
NYS Department of Agriculture and Markets
Land use data on agricultural land use based on ORPS
Mining
NYSDEC database on mining operations in the region
NYSDEC report on bluestone mining
NYSDOL data on employment, U.S. Census Bureau data on self-employment in mining
Forestry
U.S. Forest Service
NYSDOL
U.S. Census Bureau.
Other Commercial Businesses
NYSDOL regional, county and ZIP-code level data on employment in the region
Land use data on commercial/industrial/institutional land use based on ORPS
Data from Claritas on business establishments within the region, where they are located and how many people they employ

In addition to these sources, interviews were conducted with economic development stakeholders throughout the region including county planning and economic development officials, and representatives of Chambers of Commerce, Catskill Watershed Corporation, Watershed Agricultural Council, Delaware County Planning Department, Delaware County Economic Development, Ulster County Development Corporation, Delaware County Opportunities, Western Catskills Community Revitalization Council, Community Action of Greene County, and Rural Ulster Preservation Corporation.

The assessment of the Program's potential impact on these sectors focuses largely on its *direct* impact: to what extent is acquisition of additional land under LAP likely to result in a cessation of existing productive activity on the land to be acquired, or to preclude the otherwise likely development of new productive activity on that land? It is also possible that additional acquisition of land under LAP could have indirect impacts. If, for example, the analysis showed that additional acquisitions were likely to result directly in a substantial reduction in farming within the region, it would be important to consider the indirect effects of such a change – for example, a similar decline in businesses (such as feed stores) that support the agricultural sector. However, because the analysis showed that the acquisition of additional land under LAP would have little direct impact, the analysis of indirect impacts was not needed or undertaken.

Impact on local government revenues

This chapter of the DEIS also explores the program's potential impact on local government revenues. Data sources used in this analysis included information on school taxes and general real property taxes (including town, county and special district taxes) paid by NYCDEP on LAP-acquired properties; and data from the New York State Comptroller's Office on local government, school district, and fire district revenues.

EXISTING CONDITIONS

Population

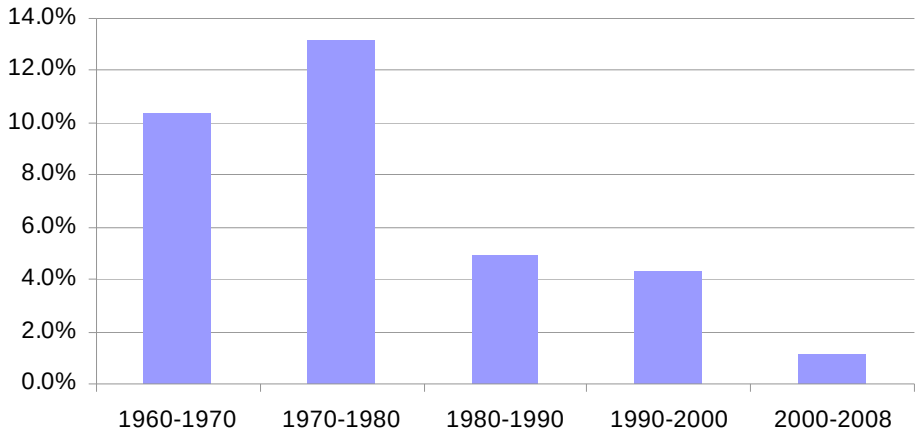
In 2008, the combined population of the 41 West-of-Hudson watershed towns[1] is estimated at 122,006[2]. As Table 3-3 shows, the combined population of West-of-Hudson towns grew substantially during the 1960's and 1970's; but growth has slowed in each decade since 1980. The combined population of the towns grew by 13.18 percent in the 1970's, 4.93 percent in the 1980's, and 4.28 percent in the 1990's – but by just an estimated 1.16 percent between 2000 and 2008.

Table 3-3: Population of Watershed Towns, Grouped by County, 1960-2008

Geography	1960	1970	1980	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Delaware Watershed Towns	38,372	39,497	41,356	41,403	41,832	40,279	1.0%	-3.7%
Greene Watershed Towns	5,879	5,357	7,017	7,332	7,791	8,145	6.3%	4.5%
Schoharie Watershed Towns	2,692	2,734	3,628	4,016	4,173	4,055	3.9%	-2.8%
Sullivan Watershed Towns	16,989	19,343	22,581	24,221	25,419	26,607	4.9%	4.7%
Ulster Watershed Towns	27,163	33,826	39,705	45,034	48,011	49,618	6.6%	3.3%
Total, WOH Watershed Towns	**93,055**	**102,727**	**116,267**	**122,006**	**127,226**	**128,704**	**4.3%**	**1.2%**

Source: U.S. Census (1960-2000), DemographicsNow (2008)

Figure 3-1: Growth Rate by Decade for West-of-Hudson Watershed Towns, 1960 – 2008



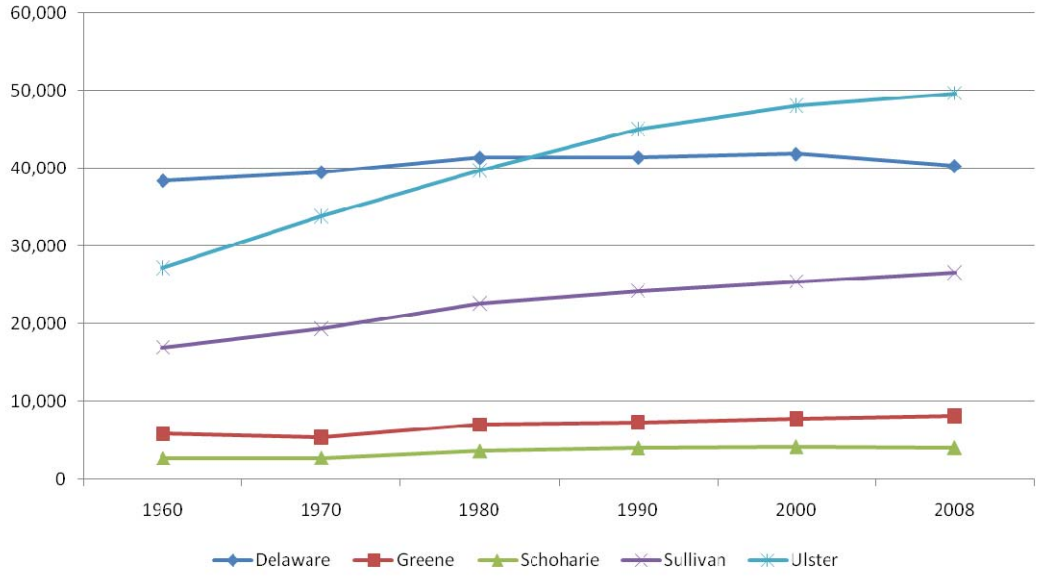
Source: U.S. Census (1960-2000), DemographicsNow (2008)

[1] Town population data shown in Tables 1 to 3 are for the entire town, including the non-watershed portions. As the term is used here, "population" includes people whose primary residence is in the watershed towns. It generally does not include second-home owners, but does include institutional populations (such as nursing home or adult home residents); and may also include some temporary residents such as college students.

[2] DemographicsNow, a service of SRC, LLC, provides annual estimates for many of the demographic and economic indicators included in the decennial census and the Census Bureau's annual American Communities Survey (ACS). Demographics Now and ACS estimates are generally consistent; ACS, however, does not provide data for smaller municipalities, such as the West-of-Hudson watershed towns.

As Figure 3-1 and Figure 3-2 show, patterns of growth in the watershed towns vary from county to county. Ulster, Greene and Sullivan County towns have seen continued growth; but towns in two counties that had recorded modest growth between 1990 and 2000 – Delaware and Schoharie – are estimated to have lost population since 2000.

Figure 3-2: West-of-Hudson Watershed Town population trends, 1960-2008



Source: U.S. Census (1960-2000), DemographicsNow (2008)

Not all residents of the five counties' watershed towns live within the boundaries of the watershed; in fact, most do not. Of the 41 towns, 12 are wholly within the watershed – so by definition all of their residents live within the watershed. The portion of the remaining 29 towns' land area that lies within the watershed ranges from less than 1 percent in Broome to 98.6 percent in Walton. Based on point data from ORPS on the location of residential parcels within these towns, we can estimate the share of each town's population living within or outside the watershed.

Table 3-4 shows the total number of people residing within the boundaries of the West-of-Hudson watershed in 2008 was estimated by this method to be 49,134. Slightly more than half lived in Delaware County – 21 percent in Ulster – and 20 percent in Greene County.

Table 3-4: Population of the watershed portion of watershed towns, by county, 1990-2008

County	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Delaware	25,137	25,679	24,998	2.2%	-2.7%
Greene	9,024	9,407	9,764	4.3%	3.8%
Schoharie	1,083	1,134	1,110	4.7%	-2.1%
Sullivan	2,287	2,735	3,002	19.6%	9.8%
Ulster	9,356	9,872	10,260	5.5%	3.9%
WOH Total	**46,887**	**48,827**	**49,134**	**4.1%**	**0.6%**

As with the five counties, variations in population and population growth are also evident at the town level. Table 3-5 lists the seven largest and seven smallest towns, measured by population, among the 34 towns in which at least 5 percent of the town's total land area lies within the watershed[1]. They range from Wawarsing, with an estimated population of 13,320 in 2008, to Halcott, with an estimated population of 203.

Table 3-5: Seven smallest and seven largest towns in the watershed (> 5% in WS), by population, 1990-2008

Seven smallest towns

Town	County	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Halcott	Greene	193	193	203	0.0%	5.2%
Hardenburgh	Ulster	200	208	211	4.0%	1.4%
Denning	Ulster	495	516	524	4.2%	1.6%
Bovina	Delaware	550	664	633	20.7%	-4.7%
Prattsville	Greene	774	665	712	-14.1%	7.1%
Conesville	Schoharie	684	726	714	6.1%	-1.7%
Ashland	Greene	803	752	827	-6.4%	10.0%

Seven largest towns

Town	County	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Neversink	Sullivan	2,951	3,909	4,117	32.5%	5.3%
Delhi	Delaware	5,015	4,547	4,465	-9.3%	-1.8%
Olive	Ulster	4,087	4,757	4,861	16.4%	2.2%
Walton	Delaware	5,953	5,472	5,332	-8.1%	-2.6%
Woodstock	Ulster	6,290	6,346	6,402	0.9%	0.9%
Hurley	Ulster	6,741	6,754	6,854	0.2%	1.5%
Wawarsing	Ulster	12,347	13,320	13,552	7.9%	1.7%

Source: US Census and DemographicsNow

Watershed towns also vary in terms of population growth or decline. As shown in Table 3-6, among towns whose land area is at least 5 percent within the watershed, population changes ranged from a 10 percent increase in Ashland and Neversink between 2000 and 2008, to a loss of 4.7 percent in Bovina.

Table 3-6: Seven towns with lowest and seven towns (> 5% in WS) with highest rate of growth, 1990-2008

Seven towns with lowest growth rate

Town	County	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Bovina	Delaware	550	664	633	20.7%	-4.7%
Meredith	Delaware	1,513	1,588	1,519	5.0%	-4.3%
Middletown	Delaware	3,406	4,051	3,881	18.9%	-4.2%
Jefferson	Schoharie	1,190	1,285	1,241	8.0%	-3.4%
Hamden	Delaware	1,144	1,280	1,237	11.9%	-3.4%
Roxbury	Delaware	2,388	2,509	2,434	5.1%	-3.0%
Gilboa	Schoharie	1,207	1,215	1,185	0.7%	-2.5%

Seven towns with highest growth rate

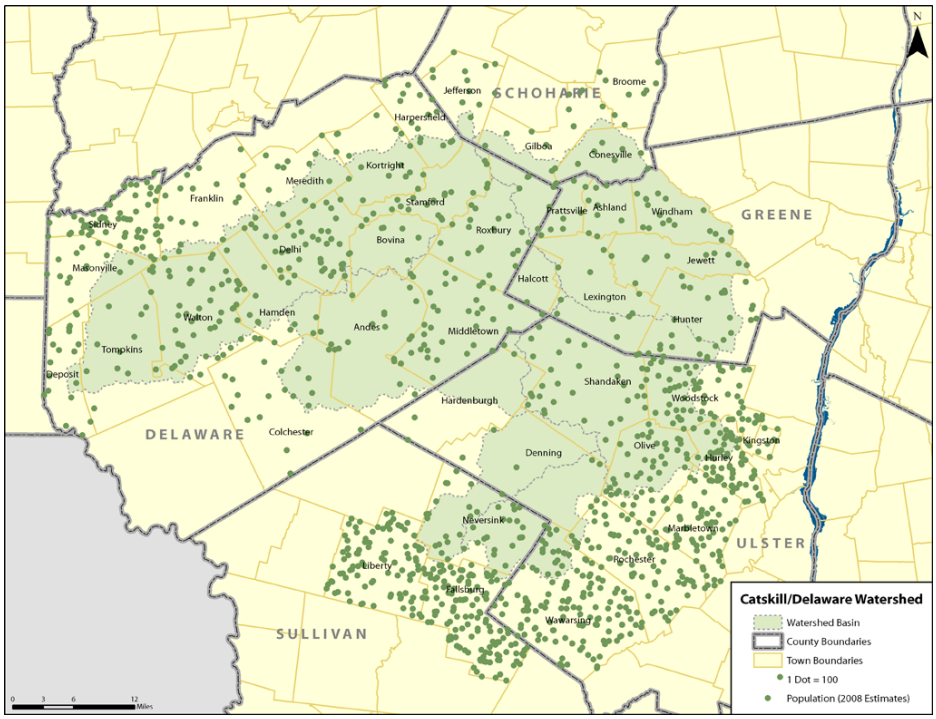
Town	County	1990	2000	2008	% Change, 1990-2000	% Change, 2000-2008
Halcott	Greene	193	193	203	0.0%	5.2%
Lexington	Greene	831	830	874	-0.1%	5.3%
Windham	Greene	1,682	1,660	1,755	-1.3%	5.7%
Shandaken	Ulster	3,047	3,235	3,427	6.2%	5.9%
Prattsville	Greene	774	665	712	-14.1%	7.1%
Ashland	Greene	803	752	827	-6.4%	10.0%
Neversink	Sullivan	2,951	3,553	3,909	20.4%	10.0%

[1] The town population data presented in Table 3-5 is for the entire town, including portions outside the watershed.

Source: US Census and DemographicsNow

Figure 3-3 shows, there is also considerable variation in population density within the region, ranging from 225.1 persons per square mile in Hurley in 2008 to 2.6 persons per square mile in Hardenburgh.

Figure 3-3: Population density map, West-of-Hudson



Very slow or no population growth – and in some towns, a decline in population – can have a variety of consequences for communities. It can undermine a community's ability to sustain essential public services and local institutions, as well as the retail and consumer service businesses that also help to sustain community life.

Age

As in New York State and the nation as a whole, the population of the watershed region has been aging. Between 1990 and 2008, the median age among all residents of West-of-Hudson watershed towns rose from 40.7 to 42.6. During the same period, the median age in New York State rose from 33.8 to 38. As with population, however, there is considerable variation among watershed towns in terms of the concentration of older residents.

Table 3-7 lists the 7 highest-ranking and 7 lowest-ranking towns, measured by the percentage of all residents who are 65 or older.

Table 3-7: Seven lowest-ranking and seven highest-ranking towns (> 5% in WS), by percentage of residents 65+, 2008

Seven towns with lowest proportion of residents 65+			Seven towns with highest proportion of residents 65+		
Town	County	%	Town	County	%
Neversink	Sullivan	12.1%	Halcott	Greene	21.0%
Wawarsing	Ulster	13.0%	Lexington	Greene	21.0%
Olive	Ulster	14.4%	Andes	Delaware	21.7%
Meredith	Delaware	14.6%	Bovina	Delaware	22.3%
Masonville	Delaware	15.3%	Colchester	Delaware	23.5%
Jefferson	Schoharie	16.1%	Middletown	Delaware	24.7%
Hunter	Greene	16.2%	Harpersfield	Delaware	25.6%

Source: DemographicsNow

The aging of West-of-Hudson watershed communities has implications for the region's future, in terms of:

- Slower economic growth;
- Transitional challenges for small businesses and family farms;
- Changes in housing needs;
- Increased turnover in property ownership; and
- Sensitivity to increases in property taxes.

Employment

About 56.3 percent of all residents of West-of-Hudson watershed towns age 16 and older were employed in 2008. As Table 3-8 shows, the number of 16-and-older residents of the West-of-Hudson watershed towns who were employed declined slightly between 1990 and 2000 – from 55.4 to 54.4 percent – and then rose to 56.3 percent in 2008.

Table 3-8: Resident employment in West-of-Hudson watershed towns, grouped by county, 1990-2008

	1990		2000		2008			
County	Employed	% Employed, 16+	Employed	% Employed, 16+	Employed	% Employed, 16+	% Change in Resident Employment, 1990-2000	% Change in Resident Employment, 2000-2008
Delaware	17,684	54.8%	18,091	53.9%	18,101	53.9%	2.3%	0.1%
Greene	3,100	53.3%	3,318	54.2%	3,600	53.8%	7.0%	8.5%
Schoharie	1,669	52.7%	1,769	52.5%	1,788	52.4%	6.0%	1.1%
Sullivan	9,789	51.6%	9,619	48.3%	11,550	54.1%	-1.7%	20.1%
Ulster	20,826	58.4%	22,338	58.1%	24,750	60.2%	7.3%	10.8%
WOH Total	**53,068**	**55.4%**	**55,135**	**54.4%**	**59,789**	**56.3%**	**3.9%**	**8.4%**

Source: DemographicsNow

To some extent, relatively low employment ratios in the West-of-Hudson watershed towns reflect the larger proportion of their population that is over 65. But it may also reflect more limited

availability of employment opportunities in mostly-rural communities, as discussed below in the section on the economy of the watershed region.

It should be noted that the 2008 data cited above do not take into account the full impact of the recession that began in 2008. The number of unemployed residents in watershed towns has probably increased since 2008. County-level data from the New York State Department of Labor (Table 3-9) indicate that between July 2008 and July 2009, the number of employed residents of the five West-of-Hudson counties fell by 5,200 – a decline of 2.8 percent.

Table 3-9: Resident employment change by county, July 2008 – July 2009

	Payroll Employment			Unemployment Rate	
County	**Jul-08**	**Jul-09**	**% Change**	**Jul-08**	**Jul-09**
Delaware	22,500	21,200	-5.8%	5.8%	8.5%
Greene	23,900	23,000	-3.8%	5.7%	8.3%
Schoharie	15,200	14,700	-3.3%	6.2%	8.5%
Sullivan	35,700	34,800	-2.5%	5.9%	7.9%
Ulster	86,800	85,200	-1.8%	5.7%	8.1%

Source: NYS Department of Labor

Income

DemographicsNow estimates that the median household income in West-of-Hudson watershed towns in 2008 was $45,135 – about 84.6 percent of the median household income for New York State. Adjusting for inflation, median household income declined by 1.6 percent between 2000 and 2008, after increasing by 2.4 percent between 1990 and 2000. Table 3-10 highlights differences in median income for the watershed towns in each of the five counties, and the percentage change in median household income (adjusted for inflation) between 1990 and 2008. Ulster County had the highest median income in 2008 – nearly 98 percent of New York State's median income – and Delaware County the lowest – less than 76 percent of the statewide median income. Median household incomes in 2008 in nearby non-watershed counties were comparable to those shown below – for example, $41,885 in Otsego County, and $52,354 in Columbia County.

Table 3-10: Average of median incomes for West-of-Hudson watershed towns, by county, 1990, 2000 and 2008 (2008 $)

County	**1990**	**2000**	**2008**	**% Change, 1990-2000**	**% Change, 2000-2008**
Delaware	$39,980	$41,143	$40,367	2.9%	-1.9%
Greene	$39,826	$42,774	$41,771	7.4%	-2.3%
Schoharie	$38,599	$42,795	$42,123	10.9%	-1.6%
Sullivan	$44,814	$42,994	$42,275	-4.1%	-1.7%
Ulster	$51,924	$53,664	$52,231	3.4%	-2.7%
New York State	$54,408	$54,565	$53,376	0.3%	-2.2%
WOH	**$44,793**	**$45,864**	**$45,135**	**2.4%**	**-1.6%**

Source: DemographicsNow

Table 3-11 shows, median incomes are higher in Ulster County watershed towns than in other watershed towns. At the town level, incomes ranged from $36,659 in Halcott and Lexington to $62,677 in Hurley. Of the 34 West-of-Hudson towns in which at least 5 percent of the town's total area is within the watershed, all but four had median household incomes below the statewide median in 2008.

Table 3-11: Seven lowest- and seven highest-income towns (> 5% in WS), 2008

Seven towns with lowest median household incomes			Seven towns with highest median household incomes		
Town	**County**	**2008**	**Town**	**County**	**2008**
Halcott	Greene	$36,654	Meredith	Delaware	$46,632
Lexington	Greene	$36,654	Jewett	Greene	$50,097
Deposit	Delaware	$36,978	Bovina	Delaware	$50,943
Prattsville	Greene	$37,460	Neversink	Sullivan	$54,855
Walton	Delaware	$37,552	Olive	Ulster	$55,202
Middletown	Delaware	$38,598	Woodstock	Ulster	$60,000
Broome	Schoharie	$39,267	Hurley	Ulster	$62,677

Source: DemographicsNow

Although the median income for the five-county region is less than 85 percent of the median for the state as a whole, poverty rates are comparable. As Table 3-12 shows, for the period 2006-2008, the poverty rate for the five counties combined averaged 12.5 percent, as compared to 13.8 percent for New York State. The percent of the population living in households with income below the federally-defined poverty level ($17,170 for a family of three in 2007) ranged from 9.9 percent in Greene County to 15.8 percent in Sullivan County. As shown in the table, poverty rates for nearby non-watershed counties generally fall within the same range.

Table 3-12: Percent of Population Living Below the Poverty Level, 2006 – 2008

	% Below Poverty Rate
Delaware	14.3%
Greene	9.9%
Schoharie	10.5%
Sullivan	15.8%
Ulster	11.7%
WOH Counties	*12.5%*
Columbia	10.3%
Otsego	14.4%
New York State	*13.8%*

Source: American Community Survey 2006 – 2008

Poverty rates are not available at the town level after 2000. We can, however, get a rough sense of the concentration of low-income households from more recent estimates of the percentage of all households in each town with incomes of less than $20,000. As Table 3-13 shows, the number of such households ranged from 10.9 percent of all households in Hurley to 28.4 percent in Lexington.

Table 3-13: Seven highest- and lowest-percentages of households earning below $20,000 (Towns >5% WS)

Seven towns with the highest percentages of households earning below $20,000

Town	County	2009
Hunter	Greene	24.1%
Middletown	Delaware	24.1%
Wawarsing	Ulster	25.3%
Walton	Delaware	26.6%
Deposit	Delaware	26.9%
Halcott	Greene	28.2%
Lexington	Greene	28.4%

Seven towns with the lowest percentages of households earning below $20,000

Town	County	2009
Hurley	Ulster	10.9%
Bovina	Delaware	11.2%
Neversink	Sullivan	12.5%
Prattsville	Greene	12.5%
Olive	Ulster	13.4%
Woodstock	Ulster	15.6%
Franklin	Delaware	16.2%

Relatively low incomes – and in particular, incomes that are both relatively low and declining in real terms – can have serious implications for communities, including:

- Declining living standards;
- Fewer people who can afford homeownership, especially in times of rising real estate values;
- Increased pressure on property-owners to sell or subdivide land; and
- Reduced ability of local governments to support needed public services.

Residential Development

DemographicsNow estimates that in 2008 there were 79,414 housing units in the watershed towns west of the Hudson (including those located in the portions of watershed towns that are outside the watershed). The total number of housing units grew by 7 percent between 1990 and 2000, and by 4.8 percent between 2000 and 2008. As shown in Table 3-14 growth in the number of housing units was slower in the watershed towns of Delaware and Ulster counties between 2000 and 2008 than it had been in the 1990s. In the three Schoharie County watershed towns, the number of housing units grew rapidly during the 1990s, but was relatively unchanged afterward. In contrast, after very little growth in the 1990s, the supply of housing in Greene County's watershed towns grew by 6.5 percent – and the three Sullivan County watershed towns continued the strong growth recorded in the 1990s.

Table 3-14: Total housing units in watershed town, grouped by county, 1990-2008

	Total housing units			% Change,	% Change,
Geography	1990	2000	2008	1990-2000	2000-2008
Delaware County	23,836	24,963	25,379	4.7%	1.7%
Greene County	8,005	8,019	8,544	0.2%	6.5%
Schoharie County	2,841	3,440	3,406	21.1%	-1.0%
Sullivan County	12,846	13,971	15,351	8.8%	9.9%
Ulster County	23,248	25,370	26,734	9.1%	5.4%
West-of-Hudson	**70,776**	**75,763**	**79,414**	**7.0%**	**4.8%**

Source: DemographicsNow

Patterns of residential development vary within the watershed region, partly reflecting the variations in population density described earlier. Table 3-15 lists the watershed towns with the largest and smallest numbers of dwelling units in 2008, according to estimates from DemographicsNow. These two lists (presented for the entire town, including portions outside the watershed) reflect both the density of housing in the town and geographic size of the town. For example, the seven smallest towns include two with a large area and very few housing units (Denning and Hardenburgh) and three that have a small area (Halcott, Prattsville and Ashland). Wawarsing, in contrast, is the largest watershed town in terms of total area, but it is largely outside the watershed.

Table 3-15: Seven towns with the smallest and seven towns with largest number of dwelling units (> 5% in WS), 2008

Seven towns with smallest number of housing units			Seven towns with largest number of housing units		
Town	County	Total housing units	Town	County	Total housing units
Halcott	Greene	225	Shandaken	Ulster	2,915
Hardenburgh	Ulster	237	Hunter	Greene	2,947
Prattsville	Greene	444	Middletown	Delaware	3,031
Bovina	Delaware	526	Walton	Delaware	3,050
Denning	Ulster	537	Hurley	Ulster	3,093
Ashland	Greene	675	Woodstock	Ulster	4,000
Conesville	Schoharie	733	Wawarsing	Ulster	6,131

Source: DemographicsNow

Watershed towns also vary by rate of growth in the supply of housing. Table 3-16 lists the towns with the highest and lowest percentage increases in the total supply of housing between 2000 and 2008.

Changes in the supply of housing are not purely a function of growth in resident population. In the West-of-Hudson area, second homes account for a significant part of the region's overall housing stock. In 2000, according to the U.S. Bureau of the Census, more than 19,000 units in the West-of-Hudson area – 26 percent of the watershed towns' total housing stock – were classified as being for "seasonal, recreational or occasional use."

Table 3-16: Seven towns with the smallest and seven towns with the largest percentage increase in the number of dwelling units (> 5% in WS), 2000-2008

Seven towns with smallest % increase in number of dwelling units					Seven towns with largest % increase in number of dwelling units				
Town	County	Total housing units, 2000	Total housing units, 2008	% Change, 2000-2008	Town	County	Total housing units, 2000	Total housing units, 2008	% Change, 2000-2008
Jefferson	Schoharie	904	891	-1.4%	Shandaken	Ulster	2,710	2,915	7.6%
Gilboa	Schoharie	992	985	-0.7%	Lexington	Greene	933	1,004	7.6%
Conesville	Schoharie	733	733	0.0%	Windham	Greene	2,002	2,155	7.6%
Delhi	Delaware	1,818	1,822	0.2%	Halcott	Greene	209	225	7.7%
Middletown	Delaware	3,013	3,031	0.6%	Prattsville	Greene	406	444	9.4%
Bovina	Delaware	521	526	1.0%	Ashland	Greene	603	675	11.9%
Meredith	Delaware	816	826	1.2%	Neversink	Sullivan	1,960	2,249	14.7%

Source: DemographicsNow

Table 3-17 highlights the distribution of housing units in various parts of the region across four categories – owner-occupied, renter-occupied, seasonally vacant and other vacant – in 2000. Similar data are not available for 2008. However, the fact that the number of housing units in watershed towns is estimated to have grown by 4.8 percent between 2000 and 2008, while the towns' resident population grew by 1.2 percent, could indicate that the number of seasonal and recreational units has grown since 2000.

Table 3-17: Total housing units, owner-occupied, renter-occupied, seasonally vacant, and other vacant units, 2000

	Total housing units	Owner-occupied units	Renter-occupied units	Seasonally vacant units	% Seasonally vacant of total	Other vacant units
Delaware Watershed Towns	24,963	12,652	4,096	6,474	26%	1,740
Greene Watershed Towns	8,019	2,374	841	4,005	50%	799
Schoharie Watershed Towns	3,440	1,492	217	1,566	46%	165
Sullivan Watershed Towns	13,971	5,514	3,304	3,580	26%	1,573
Ulster Watershed Towns	25,370	14,342	4,751	4,157	16%	2,121
Total, WOH Watershed Towns	**75,763**	**36,374**	**13,209**	**19,782**	**26%**	**6,398**

Source: DemographicsNow

There are some towns west of the Hudson where seasonally vacant units represent a particularly large share of the total housing stock. Table 3-18 lists the seven towns that in 2000 had the highest percentages of seasonally vacant units, relative to the total supply of housing.

Table 3-18: Top seven towns (> 5% in WS), seasonally vacant units

Town	County	Total housing units	For seasonal, recreational or occasional use	% seasonal/rec /occ of total
Windham	Greene	2,002	1,123	56%
Conesville	Schoharie	733	399	54%
Halcott	Greene	209	113	54%
Lexington	Greene	933	504	54%
Jewett	Greene	1,026	539	53%
Andes	Delaware	1,326	648	49%
Hunter	Greene	2,840	1,353	48%

Source: DemographicsNow

Large concentrations of second homes can have both positive and negative impacts on local communities. They can be a source of business and job opportunities in construction; and may help support higher levels of retail and consumer services than full-time residents could support on their own. They generate property tax revenues, without adding commensurately to local school district costs (although second homes do not necessarily entail lower levels of spending on other local public services, such as road maintenance and fire protection).

Strong demand for second homes can increase the price of existing homes – which can benefit current homeowners, but also make it more difficult for other local residents who are seeking to buy a home.

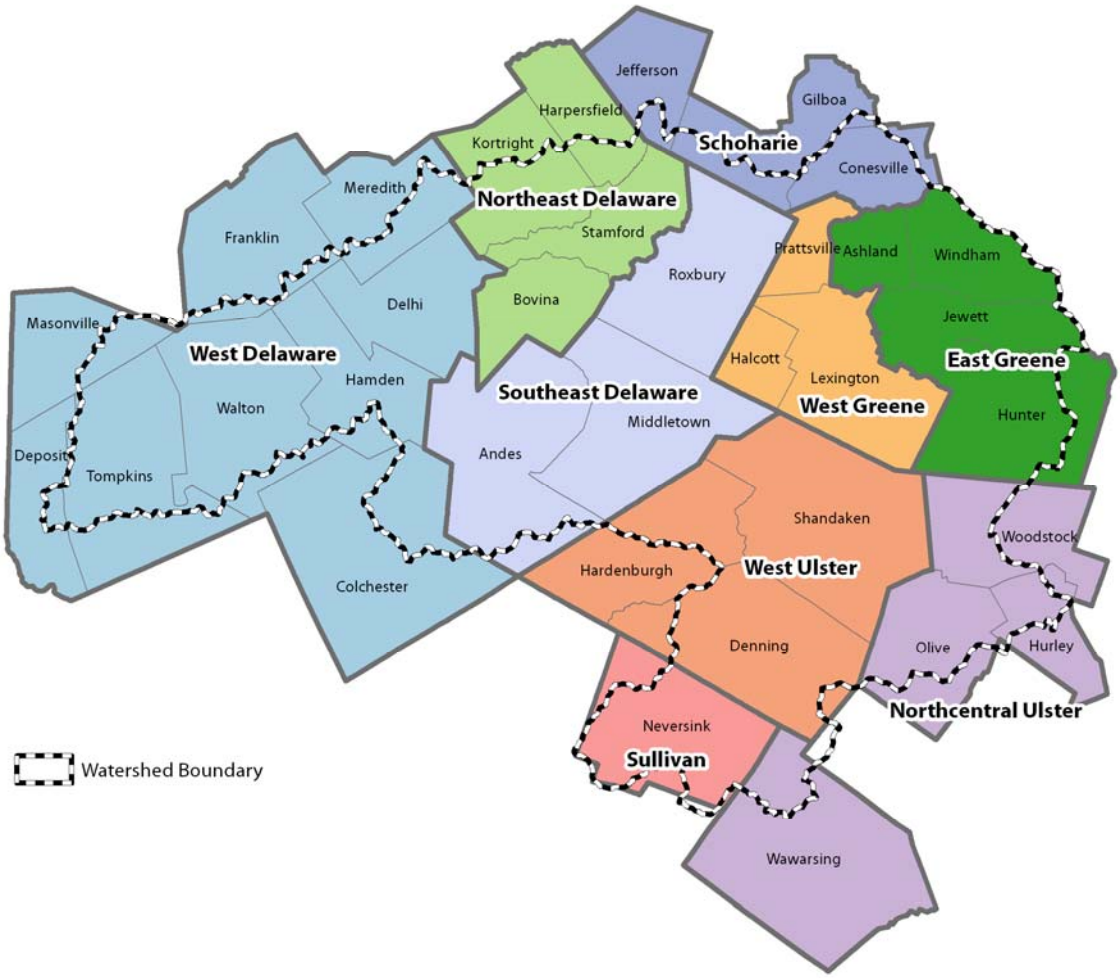
Housing Prices

As in many other parts of the U.S. and New York State, housing prices rose sharply in watershed towns in the early and mid 2000's, giving rise to widespread concern about the continued ability of local residents to afford homes in the region. To assess the impact of this trend – and to highlight differences within the watershed region – the 34 towns in which at least five percent of the town's total area is within the watershed were grouped into eight sub-county areas, based on both geographic proximity and market characteristics.

- Schoharie County – including Conesville, Gilboa and Jefferson;
- Greene County Mountaintop East – including Windham, Ashland, Jewett and Hunter;
- Greene County Mountaintop West – including Lexington, Prattsville and Halcott;
- North Central Ulster County – including Woodstock, Hurley, Olive and Wawarsing;
- West Ulster County – including Shandaken, Denning and Hardenburgh;
- Sullivan County – including Neversink;
- Southeast Delaware County – including Andes, Middletown and Roxbury;
- Northeast Delaware County – including Harpersfield, Kortright, Stamford and Bovina; and
- West Delaware County – including Colchester, Deposit, Delhi, Franklin, Hamden, Masonville, Meredith, Tompkins and Walton.

The town groups are shown in Figure 3-4.

Figure 3-4: Map of town groups inside the watershed

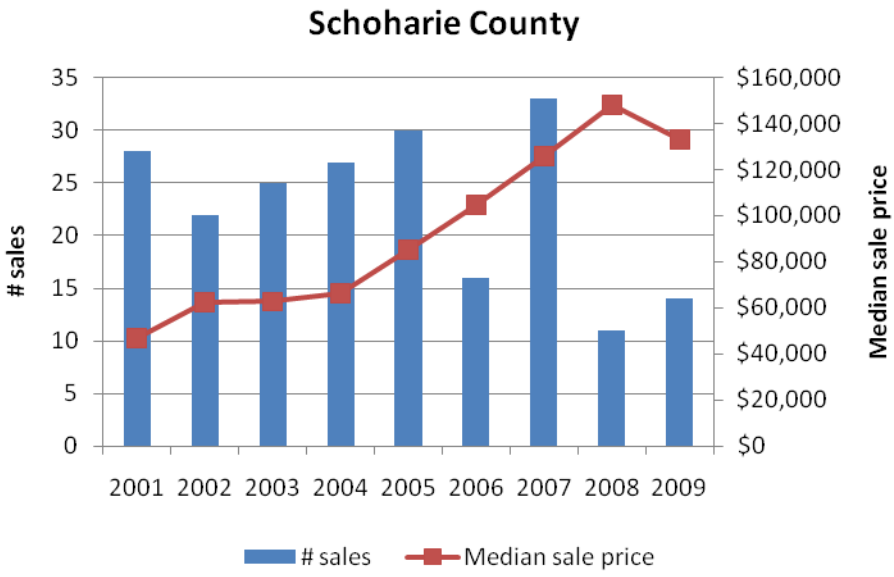


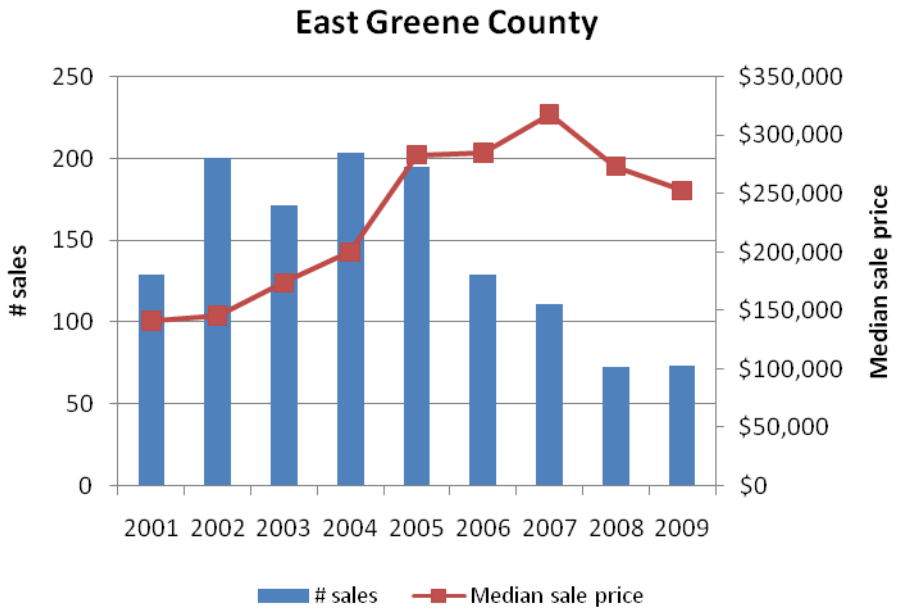
Using data obtained from the New York State Office of Real Property Services on arms-length sales of single-family homes on lots of five acres or less, we calculated for each of these areas the percentage increase in home prices in each of these eight areas between 2001 and 2009. The results are summarized below in **Table 3-19** and displayed graphically for each area in **Figure 3-5.** As the Table shows, the cumulative increase in the price of single-family homes during this period ranged from 27 percent in Sullivan County (Neversink) to 186 percent in the Schoharie County.

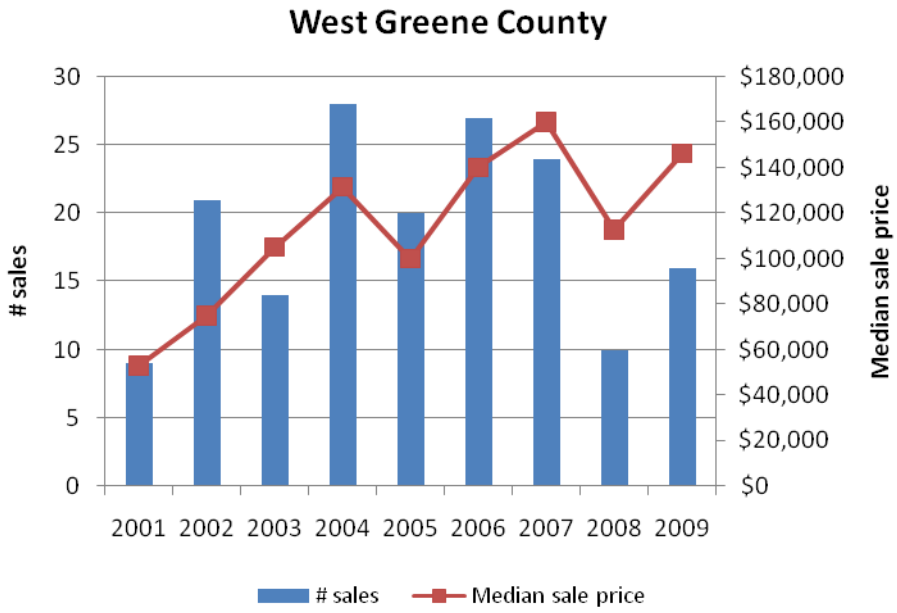
Table 3-19: Median sale prices of single-family homes on lots of five acres or less, 2001-2009

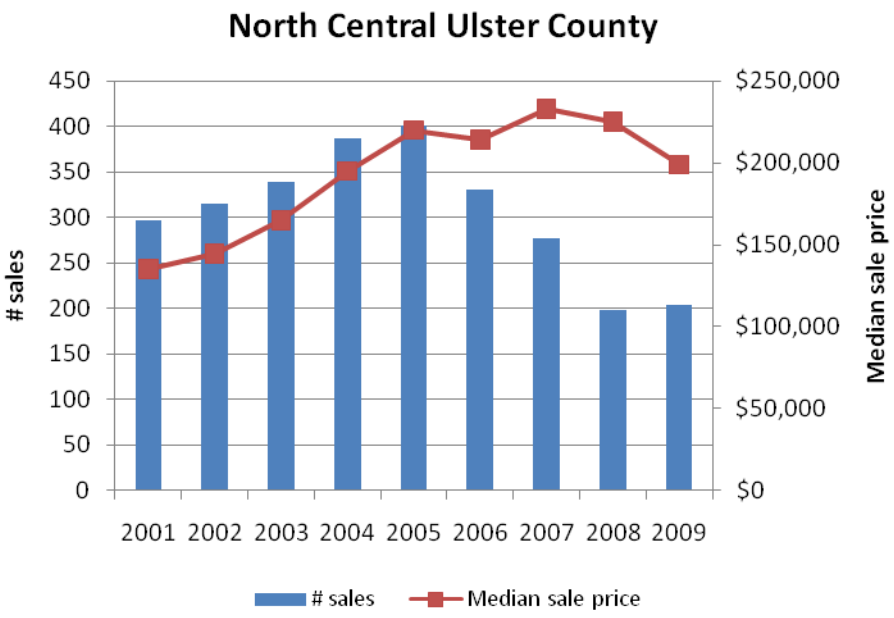
Town Groups	Median sale price 2001	2009	% Change, 2001-2009
Inside watershed			
Schoharie County	$46,500	$133,000	186%
Greene County Mountaintop West	$53,000	$146,000	175%
Western Ulster County	$88,500	$184,000	108%
Western Delaware County	$52,000	$100,000	92%
Greene County Mountaintop East	$110,000	$210,500	91%
Southeastern Delaware County	$75,000	$130,000	73%
Northeastern Delaware County	$62,500	$106,000	70%
North Central Ulster County	$135,000	$199,000	47%
Sullivan County	$107,500	$136,000	27%

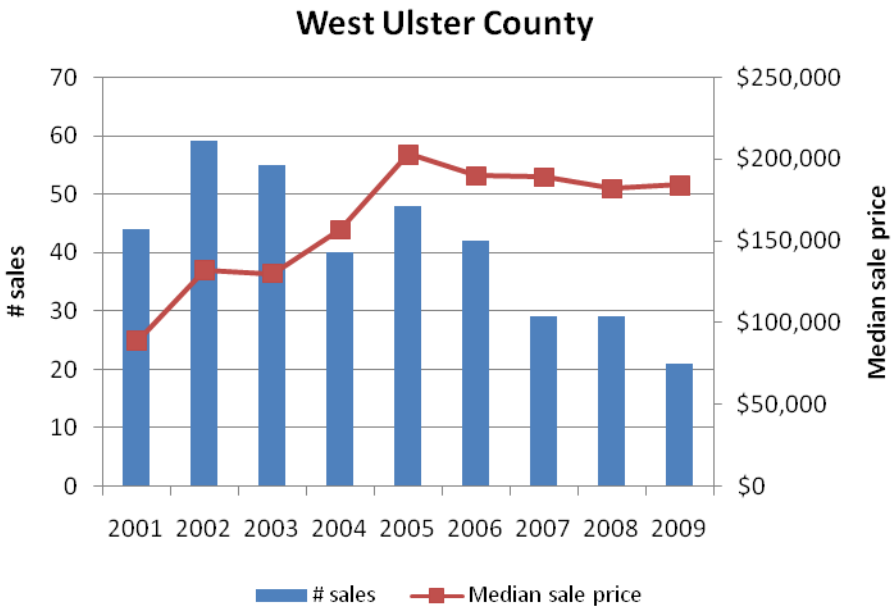
Figure 3-5: Median sale price and number of sales of single-family homes on lots of five acres or less, by town group, 2001-2009

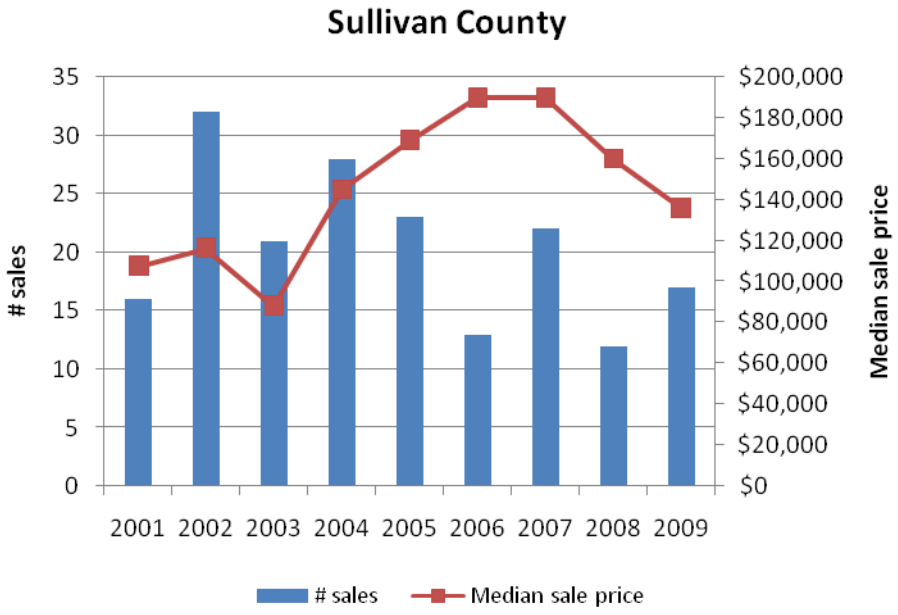


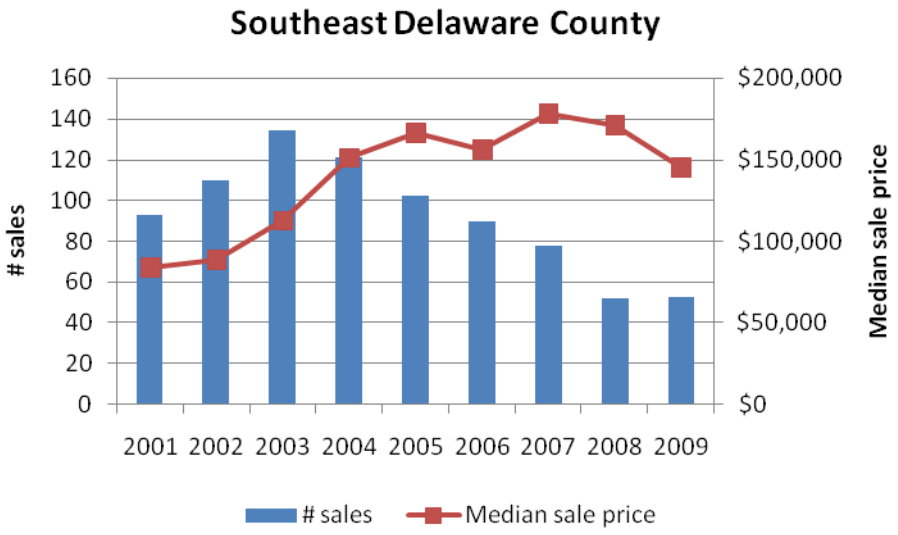

East Greene County
250
200
150
100
50
0
sales
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Median sale price
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price

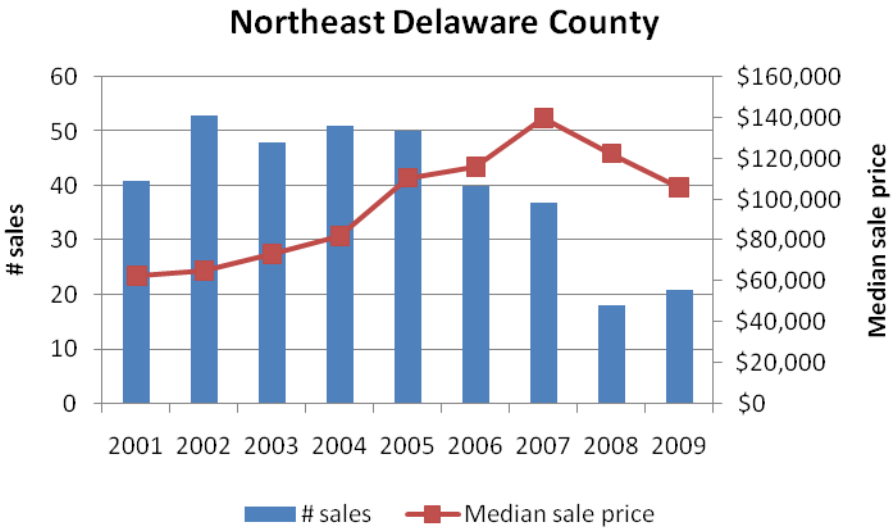

West Greene County
30
25
20
15
10
5
0
sales
$180,000
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$0
Median sale price
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price

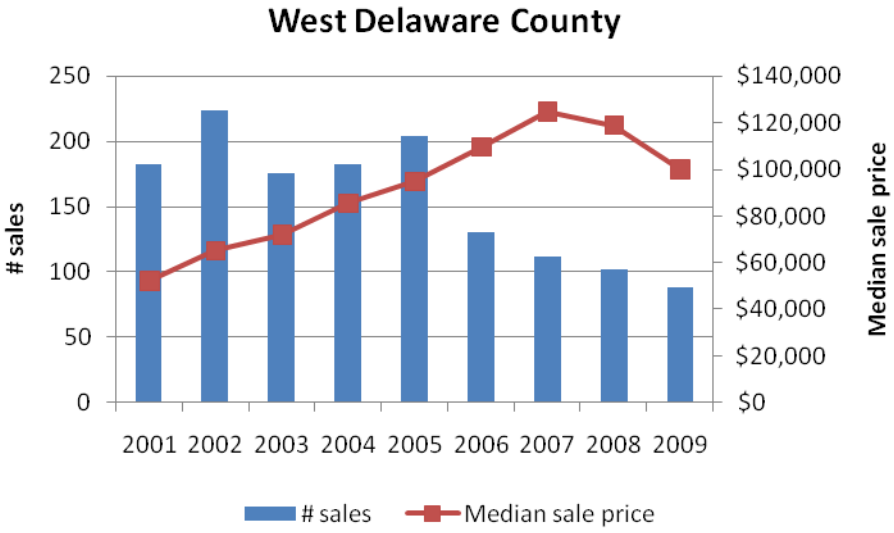

North Central Ulster County
450
400
350
300
250
200
150
100
50
0
sales
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Median sale price
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price


West Ulster County
70
60
50
40
30
20
10
0
sales
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Median sale price
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price


Sullivan County
sales
Median sale price
35
30
25
20
15
10
5
0
$200,000
$180,000
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$0
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price


Southeast Delaware County
sales
Median sale price
160
140
120
100
80
60
40
20
0
$200,000
$150,000
$100,000
$50,000
$0
2001 2002 2003 2004 2005 2006 2007 2008 2009
sales
Median sale price





As they have elsewhere, price increases in the West-of-Hudson watershed region have affected the affordability of housing for local residents. To gauge the impact of price increases on affordability, we calculated the annual carrying cost for a mortgage on a median-priced home – assuming a 20 percent down payment and a 30-year, fixed-rate mortgage at 6 percent. We then calculated the resulting annual mortgage payments as a percentage of the median family income for each county. The results are shown below in Table 3-20. Since incomes rose much more slowly than housing prices, the percentage of countywide median family income needed to cover annual mortgage payments rose in all eight sub-county areas; but the rate of increase – and the results – varied considerably across the region. For example:

- The percentage of countywide median family income needed to finance the purchase of a median-priced home in eastern mountaintop towns in Greene County rose from 14.4 to 22.4 percent; in both absolute and relative terms, this area has the region's most expensive housing.
- In the Schoharie County watershed towns, the percentage of countywide median family income needed to finance a median-priced single family home more than doubled between 2001 and 2009; nevertheless, annual mortgage payments for the median-priced home in 2009 equaled only 12.7 percent of median family income.
- In Neversink, the increase in percentage of countywide median family income needed to purchase a median-priced home fell slightly – from 14.2 to 12.9 percent.
- Northwestern Delaware County had the region's least expensive housing – both in absolute terms and as a percentage of the County's median family income.

Table 3-20: Percent of median family income required to cover annual mortgage payments

	Median Family Income		Annual Mortgage Payment		Percent of Income	
Sub-region	*2001*	*2006-08*	*2001*	*2009*	*2001*	*2009*
Schoharie	$43,118	$60,187	$2,676	$7,655	6.2%	12.7%
East Greene	$43,854	$54,103	$6,331	$12,116	14.4%	22.4%
West Greene	$43,854	$54,103	$3,051	$8,403	7.0%	15.5%
North Central Ulster	$51,708	$69,477	$7,770	$11,454	15.0%	16.5%
West Ulster	$51,708	$69,477	$5,094	$10,590	9.9%	15.2%
Sullivan	$43,458	$56,209	$6,187	$7,828	14.2%	13.9%
Southeast Delaware	$39,695	$51,396	$4,317	$7,482	10.9%	14.6%
Northeast Delaware	$39,695	$51,396	$3,597	$6,101	9.1%	11.9%
West Delaware	$39,695	$51,396	$2,993	$5,756	7.5%	11.2%

Mortgage carrying costs are of course not the only factor in the cost of homeownership – fuel, insurance and real property tax costs also have an effect. But the data presented in Table 3-20 provide a good measure of how the cost of homes vary within the watershed region, and how they have varied over time, in relation to income.

For those who cannot afford to purchase (or otherwise do not wish to own) a home, the problem of affordability is heightened in some parts of the region by the relative scarcity of rental housing. In 2008, rental units accounted for 17.4 percent of all housing in the watershed towns. As Table 3-21 shows, rental housing ranges from a high of 21.3 percent of all units in North Central Ulster to a low of 6.4 percent in Schoharie County watershed towns. Region-wide, rental housing accounted for fewer than 10 percent of all housing units in 11 of the 34 towns in which land within the watershed accounted for at least 5 percent of the town's total area.

Table 3-21: Percentage of rental units by town group, 2008

Sub-region	Total housing units	Renter-occupied units	% Renter-occupied units
Schoharie	2,609	168	6.4%
West Greene	1,673	134	8.0%
Southeast Delaware	6,493	700	10.8%
Sullivan	2,249	246	10.9%
East Greene	6,871	760	11.1%
West Ulster	3,689	524	14.2%
Northeast Delaware	3,759	539	14.3%
West Delaware	12,098	2,100	17.4%
North Central Ulster	15,670	3,345	21.3%

In some watershed towns – especially those that are more rural in character – mobile homes play an important part in meeting the need for affordable housing. As Table 3-22 shows, mobile homes as a percentage of all housing units range from none in Woodstock to 29 percent in Halcott.

Table 3-22: Seven towns with lowest and highest % of mobile homes (> 5% in WS), 2000

Seven towns with lowest % of mobile homes of total housing units

County	Town	Group	Total housing units	Mobile homes	% Mobile homes of total
Ulster	Woodstock	North Central Ulster	4,000	0	0%
Greene	Windham	East Greene	2,155	63	3%
Greene	Hunter	East Greene	2,947	106	4%
Ulster	Olive	North Central Ulster	2,446	129	5%
Greene	Jewett	East Greene	1,094	70	6%
Ulster	Hurley	North Central Ulster	3,093	241	8%
Ulster	Shandaken	West Ulster	2,915	239	8%

Seven towns with highest % of mobile homes of total housing units

County	Town	Group	Total housing units	Mobile homes	% Mobile homes of total
Greene	Prattsville	West Greene	444	87	20%
Delaware	Tompkins	West Delaware	816	164	20%
Delaware	Franklin	West Delaware	964	206	21%
Delaware	Masonville	West Delaware	772	167	22%
Delaware	Kortright	Northeast Delaware	1,024	222	22%
Delaware	Colchester	West Delaware	1,669	363	22%
Greene	Halcott	West Greene	225	66	29%

The Economy of the Watershed Region

Assessing the impact of further acquisitions under the Extended LAP requires an understanding of the regional economic context within which the program operates. This part of Chapter 3:

- Briefly discusses trends in employment and industry mix in the watershed region; and
- Discusses current conditions and recent trends in several industries that are particularly dependent on land resources.

Employment growth, 1997-2008

As Table 3-23 shows, all five West-of-Hudson watershed counties experienced significant growth between 1997 and 2007 in county-wide payroll employment. In all but Greene County, payroll employment declined in 2008, as the recession began to take its toll.

Table 3-23: Total Industries Payroll Employment, 1997 – 2008

County	1997 Average Annual Employment	2007 Average Annual Employment	2008 Average Annual Employment	Change 1997 - 2007	% Change 1997 - 2007	Change 2007 - 2008	% Change 2007 - 2008
Delaware	15,953	17,211	16,634	1,258	7.9%	(577)	-3.4%
Greene	12,355	14,571	14,649	2,216	17.9%	78	0.5%
Schoharie	8,259	9,160	8,949	901	10.9%	(211)	-2.3%
Sullivan	23,321	25,950	25,869	2,629	11.3%	(81)	-0.3%
Ulster	55,278	62,246	60,382	6,968	12.6%	(1,864)	-3.0%
WOH Counties	*115,166*	*129,138*	*126,483*	*13,972*	*12.1%*	*(2,655)*	*-2.1%*
NYS	*7,902,044*	*8,550,093*	*8,596,391*	*648,049*	*8.2%*	*46,298*	*0.5%*

Source: New York State Department of Labor

Similar data are not available at the town level; but ZIP code-level data can provide a rough sense of changes in employment in a comparable area. Between 1997 and 2007, according to the New York State Department of Labor, private payroll employment grew from 34,108 to 35,624 – an increase of 4.4 percent – in 73 ZIP codes that roughly correspond to the West-of-Hudson watershed towns. This increase was not distributed evenly across the region, however; private payroll employment declined between 1997 and 2007 in 31 of the 73 West-of-Hudson ZIP codes.

Figure 3-6 highlights gains and losses in private payroll employment by ZIP code. While a number of West-of-Hudson communities suffered significant job losses between 1997 and 2007, it is worth noting that NYSDOL data also show relatively strong job growth in several small communities throughout the West-of-Hudson area. Table 3-24 highlights ZIP-code-level increases in private payroll employment in several West-of-Hudson communities, as reported by NYSDOL. These data should be interpreted cautiously because ZIP-code-level employment numbers in small communities can be affected by NYSDOL's disclosure rules and by company reporting practices. However, they highlight that some watershed communities have done better than others in terms of job growth.

Figure 3-6: Map of job gains and losses, West-of-Hudson

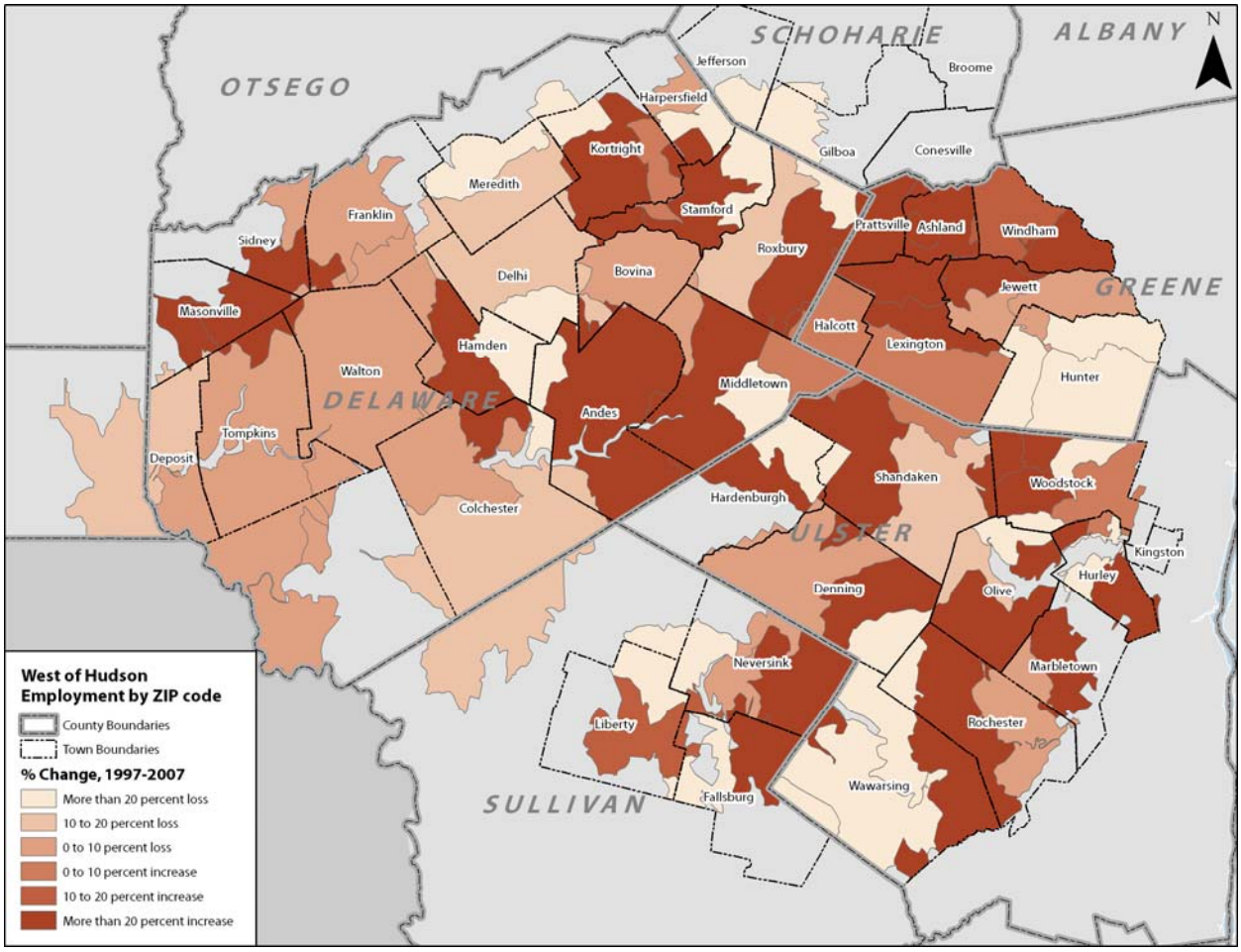


Table 3-24: Private payroll employment, 1997-2007

ZIP/Community	1997 Average Annual Employment	2007 Average Annual Employment	Change 1997-2007	% Change 1997-2007
12443 HURLEY	165	418	253	153.0%
12455 MARGARETVILLE	525	640	115	21.8%
12481 SHOKAN	94	271	177	188.1%
12496 WINDHAM	571	661	89	15.6%
12498 WOODSTOCK	1,279	1,335	57	4.5%
13731 ANDES	64	96	32	49.7%
13788 HOBART	240	843	604	252.1%

Source: New York State Department of Labor

Industry mix

As Table 3-25 shows, as of 2008 there are some notable similarities and differences in industry mix across the five counties. In all five, government accounts for an unusually large share of total employment. (In New York State as a whole, government accounted for 16.8 percent of all payroll employment in 2008.) Relatively few, in contrast, are employed in financial, information and business services. Delaware County has by far the largest concentration of manufacturing jobs; Sullivan County has the highest concentration in health care and social assistance; and Greene and Ulster counties the largest concentrations of jobs in tourism-related industries.

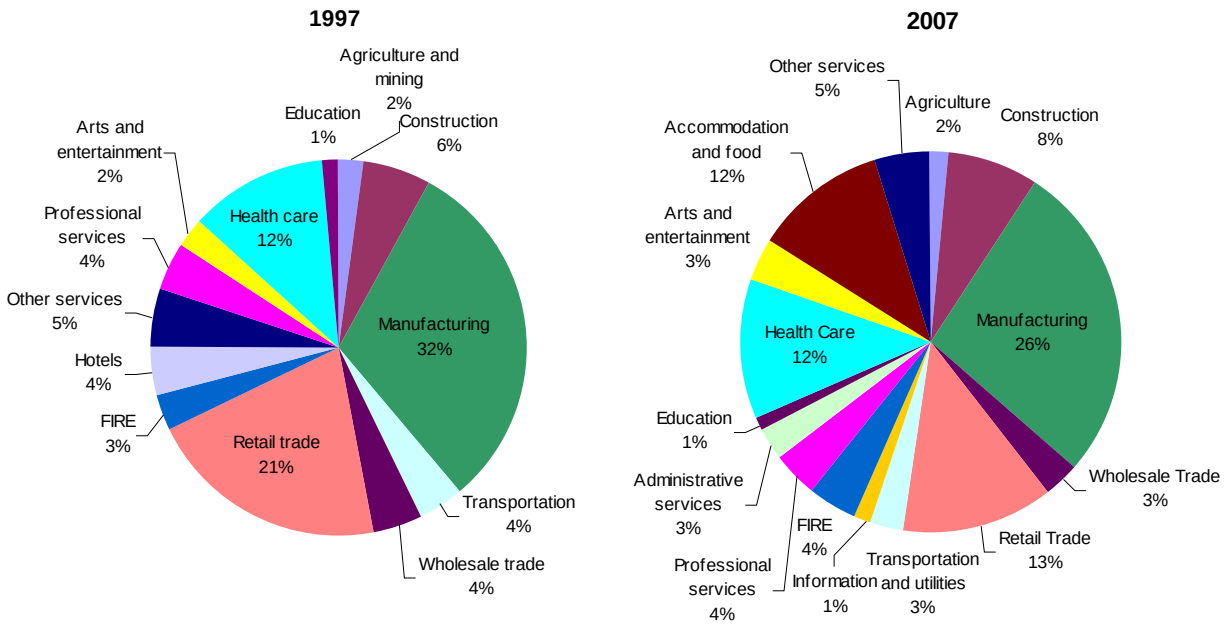
Table 3-25: Average annual county employment by industry, 2008

	Delaware		Greene		Schoharie		Sullivan		Ulster	
Industry Title	*Employment*	*% of total*	*Employment*	*% of total*	*Employment*	*% of total*	*Employment*	*% of total*	*Employment*	*% of total*
Total	*16,634*		*14,649*		*8,949*		*25,869*		*60,382*	
Government	4,492	27.0%	4,404	30.1%	2,930	32.7%	6,403	24.8%	14,335	23.7%
Ag & natural resources	232	1.4%	99	0.7%	173	1.9%	416	1.6%	1,028	1.7%
Construction	536	3.2%	773	5.3%	431	4.8%	1,080	4.2%	2,482	4.1%
Manufacturing	4,323	26.0%	1,098	7.5%	286	3.2%	1,318	5.1%	4,026	6.7%
Retail trade	1,785	10.7%	2,213	15.1%	1,177	13.2%	3,237	12.5%	9,283	15.4%
Finance, information & business services	1,107	6.7%	1,107	7.6%	761	8.5%	2,879	11.1%	7,704	12.8%
Education, health & social assistance	1,896	11.4%	1,250	8.5%	1,127	12.6%	5,187	20.1%	9,319	15.4%
Leisure activities	1,095	6.6%	2,363	16.1%	712	8.0%	2,820	10.9%	7,014	11.6%
Other	1,001	6.0%	1,293	8.8%	563	6.3%	2,430	9.4%	4,985	8.3%

Source: New York State Department of Labor

As noted above, payroll employment data are not available at the town level. But using ZIP-code level data, we can calculate industry mix – and how it has changed since 2007 – in the same set of ZIP codes used in Figure 3-6. Figure 3-7 shows industry mix in the West-of-Hudson area in 1997 and 2007. In 2007, the manufacturing sector – primarily concentrated in Delaware County – accounted for 27 percent of all private payroll employment in the West-of-Hudson ZIP codes; the principal tourism-related industries (hotels, restaurants, the arts and recreation) for 14 percent; retailing for 13 percent; and health care for 12 percent. Together these four sectors accounted for two-thirds of all private payroll employment in the region.

Figure 3-7: Average annual employment, West-of-Hudson



Source: New York State Department of Labor

Because of a change in the way employment and other industry data are classified by NYSDOL, the mix of industries in the watershed region in 2007 cannot be compared directly to the mix of industries ten years earlier – but there are enough similarities in industry definitions to allow us to draw some comparisons. Several broad trends are evident:

- Employment in manufacturing held relatively steady in the West-of-Hudson ZIP codes (especially when we take into account that some jobs included in the manufacturing sector in 1997 are counted as information-sector jobs in the 2007 data).
- Construction industry employment rose by 42 percent between 1997 and 2007 in the West-of-Hudson ZIP codes.
- Employment in finance, insurance and real estate increased by about 40 percent between 1997 and 2007.
- Employment in retailing, restaurants, hotels and recreation – all relatively low-wage sectors – grew by 6.7 percent in the West-of-Hudson ZIP codes.
- Employment in health and social services rose by 2.7 percent.

During 2008, the recession of 2008-09 began to affect business and employment in the watershed region. In the West-of-Hudson watershed ZIP codes, average annual private payroll employment fell by 2.8 percent – a loss of 987 jobs. Losses were concentrated in manufacturing, construction, and administrative support services. The decline in private payroll employment in the West-of-Hudson watershed area in 2008 effectively erased nearly two-thirds of the modest gains of the preceding ten years.

Agriculture

Agricultural uses account for a significant share of all land use in the watershed region; and for many watershed residents, agriculture is an important part of what defines the character of their communities. Nevertheless, by some measures it represents a relatively small part of overall economic activity in the watershed region[1].

As in many other parts of New York State, the amount of land used for agriculture has been declining in the watershed region for several decades. Between 1978 and 2008 (as Figure 3-8 shows), total farm acreage in the five West-of-Hudson watershed counties declined by 40 percent. Similarly, as shown in Table 3-26 between 1997 and 2007, farm employment in the five counties (including both farm proprietors and their employees) fell by 41 percent.

Figure 3-8: West-of-Hudson Farmland Acres, 1978 – 2008

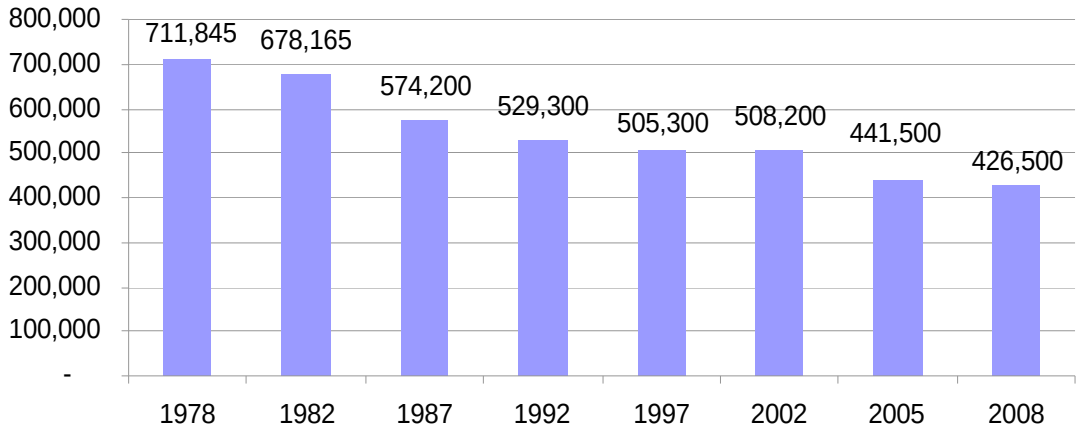


Table 3-26: Farm Employment by County, 1997 - 2007

Geography	1977	1987	1997	2007	% Change 1977 - 2007
West-of-Hudson	*9,713*	*8,305*	*6,597*	*5,730*	-41.0%
Delaware	3,420	2,691	2,125	1,860	-45.6%
Greene	799	782	636	560	-29.9%
Schoharie	1,954	1,663	1,440	1,270	-35.0%
Sullivan	1,504	1,200	860	756	-49.7%
Ulster	2,036	1,969	1,536	1,284	-36.9%

Source: U.S. Department of Commerce, Bureau of Economic Analysis

[1] The data in Tables 3-27 through 3-29, and in Figure 3-7 represent agricultural activity in the entire county, including watershed and non-watershed portions.

Table 3-27 highlights several measures of agricultural activity in the five counties, and how they have changed between 1997 and 2007, based on data from the U.S. Census of Agriculture. Between 1997 and 2002, the number of farms in the five West-of-Hudson watershed counties rose from 2,199 to 2,622, and then declined to 2,377 in 2007. For the entire ten-year period from 1997 to 2007, the number of farms increased by 8.1 percent. Similarly, the total acreage devoted to farming rose from 470,266 in 1997 to 509,202 in 2002, and then fell to 431,038 in 2007. For the ten-year period, total farm acreage in the eight counties shrank by 8.3 percent. As a result, average farm size fell from 214 acres to 181 acres.

Measured by revenues, the great majority of these 2,377 farms are very small enterprises. In 2007, only 176 farms in the five counties sold more than $250,000 in farm products. Combined sales of farm products in 2007 by all farms in the five counties totaled $222.7 million – an average of about $94,000 per farm. Between 1997 and 2007, the total value of farm products sold by farms in the five counties increased by about 12 percent in real terms. The increased value of products sold, combined with an 8.3 percent reduction in total acreage being farmed, suggests that the remaining farmland is being used more productively. The data show considerable variation across the five counties in sales per acre of farm land – from $872 in Ulster to $368 in Schoharie and $333 in Delaware.

County-level data from the U.S. Bureau of Economic Analysis shown in Table 3-28 provide some insight into the place of agriculture in the economy of the watershed counties. In 2007, farm employment – including both self-employed farm operators and wage or salary workers employed in farming – accounted for 1.8 percent of total employment in the five counties, and 1 percent of total earnings. Farm employment ranged from less than 1 percent of all employment in Ulster County to 5.2 percent of all employment in Schoharie; and farm earnings from less than 0.4 percent of total earnings in Ulster to 2.3 percent in Delaware and Schoharie.[1]

Given the low revenues and low net earnings per farm cited in the Census of Agriculture data, it is not surprising that for many farm operators, farming is not their primary occupation. In 2007, about 44 percent of all farm operators in the five counties said that farming was not their primary occupation.

It is important to note, however, that the number of people employed in agriculture, the percentage of all income that is derived from farming and the total acreage of farm land are not the only measures of agriculture's significance to the regional economy. Although relatively small in overall terms, agriculture is still one of the region's leading "export" industries – that is, an industry that sells its products outside the region and brings revenue into the region. Investments in farm land, facilities and equipment are significant. Moreover, several other types of business in the region, such as vendors of farm supplies and equipment and dairy processing plants are dependent on its agricultural base.

[1] The farm employment data presented in Table 3-28 differ from those used in Figure 3-6 in two respects – they are county-wide numbers (rather than being limited to ZIP codes that roughly coincide with watershed boundaries); and they include self-employed farm operators, rather than just wage-earning or salaried farm employees.

Table 3-27: Census of Agriculture data, by county and West-of-Hudson, 1997-2007

	Delaware	Greene	Schoharie	Sullivan	Ulster	WOH
Number of farms						
1997	717	244	518	311	409	2,199
2002	788	342	579	381	532	2,622
2007	742	286	525	323	501	2,377
% Change, 1997-2007	3.5%	17.2%	1.4%	3.9%	22.5%	8.1%
Land in farms (acres)						
1997	183,667	48,770	110,773	58,067	68,989	470,266
2002	191,537	57,898	112,735	63,614	83,418	509,202
2007	165,572	44,328	95,490	50,443	75,205	431,038
% Change, 1997-2007	-9.9%	-9.1%	-13.8%	-13.1%	9.0%	-8.3%
Average size of farm (acres)						
1997	256	200	214	187	169	214
2002	243	169	195	167	157	194
2007	222	155	182	156	150	181
% Change, 1997-2007	-13.3%	-22.5%	-15.0%	-16.6%	-11.2%	-15.2%
Market value of products sold - Inflation adjusted 2008 $ (000s)						
1997	$ 59,859	$ 12,068	$ 36,313	$ 31,788	$ 58,745	$ 198,772
2002	$ 60,461	$ 17,204	$ 32,288	$ 45,182	$ 41,188	$ 196,323
2007	$ 57,271	$ 17,005	$ 36,510	$ 43,742	$ 68,126	$ 222,654
% Change, 1997-2007	-4.3%	40.9%	0.5%	37.6%	16.0%	12.01%
Average per farm sales - Inflation adjusted 2008 $						
1997	$ 70,588	$ 41,326	$ 60,521	$ 82,996	$ 117,491	$ 74,584
2002	$ 76,727	$ 50,304	$ 55,765	$ 118,589	$ 77,422	$ 75,761
2007	$ 76,669	$ 59,458	$ 69,543	$ 135,425	$ 135,981	$ 95,415
% Change, 1997-2007	8.6%	43.9%	14.9%	63.2%	15.7%	27.9%
Government payments - Inflation adjusted 2008 $ (000s)						
1997	$ 410	$ 137	$ 385	$ 251	$ 337	$ 1,520
2002	$ 2,368	$ 376	$ 1,951	$ 664	$ 930	$ 6,289
2007	$ 1,295	$ 234	$ 619	$ 252	$ 295	$ 2,695
% Change, 1997-2007	215.5%	70.8%	60.8%	0.6%	-12.4%	77.33%
Average per farm receiving payments - Inflation adjusted 2008 $						
1997	$ 2,632	$ 1,922	$ 3,013	$ 3,342	$ 5,517	$ 3,285
2002	$ 10,670	$ 5,703	$ 11,897	$ 8,739	$ 13,668	$ 10,135
2007	$ 5,160	$ 3,714	$ 4,516	$ 3,879	$ 5,364	$ 4,527
% Change, 1997-2007	96.0%	93.2%	49.9%	16.1%	-2.8%	37.8%
Number of farms with sales of $250K or more						
1997	36	7	24	19	38	124
2002	54	11	27	18	33	143
2007	64	9	31	20	52	176
% Change, 1997-2007	77.8%	28.6%	29.2%	5.3%	36.8%	41.9%
Net income from operations - Inflation adjusted 2008 $ (000s)						
1997	$ 11,155	$ (272)	$ 3,735	$ 3,722	$ 11,972	$ 30,312
2002	$ 8,234	$ 620	$ 5,985	$ 5,985	$ 941	$ 21,765
2007	$ 13,642	$ 2,721	$ 7,882	$ 2,853	$ 14,846	$ 41,944
% Change, 1997-2007	22.3%	1099.3%	111.1%	-23.4%	24.0%	38.37%
Average net income per farm - Inflation adjusted 2008 $						
1997	$ 15,536	$ (1,099)	$ 7,182	$ 11,856	$ 29,058	$ 12,507
2002	$ 10,436	$ 1,818	$ 10,390	$ 38,472	$ 1,769	$ 12,577
2007	$ 18,262	$ 9,515	$ 15,013	$ 8,832	$ 29,633	$ 16,251
% Change, 1997-2007	17.5%	966.0%	109.0%	-25.5%	2.0%	29.9%
% Operators by principal occupation, farming						
1997	59.69%	46.72%	60.04%	62.38%	57.21%	58.3%
2002	63.07%	56.14%	57.51%	63.78%	64.10%	61.3%
2007	58.89%	50.70%	57.71%	50.77%	57.09%	56.2%

Source: U.S. Department of Agriculture, Census of Agriculture

During the next 10 to 15 years, the relatively low earnings of farm operators will continue to represent a serious challenge for those communities interested in maintaining their agricultural base. Weak farm earnings, and a continuing decline in acreage being farmed, could increase pressure for sale of farmland. The fact that so many farmers in the region rely on other jobs as their primary source of income may to some extent provide a buffer against this pressure – but it also means that the stability of agriculture in the region depends to some extent on the availability and quality of jobs in other industries.

It should be noted, however, that this challenge is by no means limited to the watershed region. Indeed, by some measures agriculture has performed better in the watershed region than in neighboring counties. In Orange, Otsego and Columbia counties, for example, total farm acreage fell by an average of 12.6 percent between 1997 and 2007; and sales of farm products, adjusted for inflation, fell by 23.9 percent.

Table 3-28: Farming as a percentage of employment and earnings, 2007, by county and West-of-Hudson

Geography	Farm Earnings ($000s)	Farm Earnings % of Total	Farm Employment	Farm Employment % of Total
West-of-Hudson	122,426	1.4%	*5,730*	*2.4%*
Delaware	45,855	3.7%	1,860	4.9%
Greene	13,604	1.5%	560	2.1%
Schoharie	20,931	3.8%	1,270	7.7%
Sullivan	23,716	1.4%	756	1.6%
Ulster	18,320	0.4%	1,284	1.2%

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Mining

Mining has long been part of the economy of the West-of-Hudson watershed, especially in Delaware County. In 2008, according to the New York State Department of Labor, there were 36 mining and quarrying businesses employing 401 people in wage-and-salary jobs in the West-of-Hudson counties (including areas outside the watershed), with average earnings of just over $45,000 per year. In addition, the Census Bureau reports that in 2007 there were 170 self-employed workers in mining and quarrying in the West-of-Hudson watershed counties, with average revenues of about $36,000 each.

Data published by the New York State Department of Environmental Conservation indicate that as of the end of 2009, there were 75 active mines in the 41 West-of-Hudson watershed towns, occupying a total of approximately 735 acres. They included 41 mines producing sand and gravel, 31 producing bluestone and 3 producing clay.

Table 3-29: Number of mines and acreage, by type of mine and county

	Bluestone		Clay		Sand and gravel		Total	
	# of mines	*Acres*	*# of mines*	*Acres*	*# of mines*	*Acres*	*# of mines*	*Acres*
Delaware	30	199	1	4	22	287	53	490
Greene	1	40	-	-	6	51	7	90
Schoharie	-	-	-	-	8	83	8	83
Sullivan	-	-	-	-	2	11	2	11
Ulster	-	-	2	12	3	48	5	60
Total	**31**	**239**	**3**	**16**	**41**	**480**	**75**	**735**

Bluestone mining has been particularly significant in Delaware County – not only because of this industry segment's concentration in the county, but also because bluestone is for Delaware County an "export" commodity, sold widely outside the county. Bluestone mines are required to have either a permit from the New York State Department of Environmental Conservation or, for new operations, a temporary "exploratory authorization." In 2008, according to DEC, there were 64 bluestone mines in the state with active DEC permits, of which 35 were located in Delaware County; and 13 operating with exploratory authorizations, of which 7 were located in Delaware County.[1] Most of these operations are small, employing from 1 to 4 people.

In addition to mines that operate under NYSDEC permits and exploratory authorizations, there are some small bluestone operations that fall below the threshold at which a permit is required – defined by the State Mined Land Reclamation Act as any mining operation that extracts at least 1,000 tons of material (including overburden) for at least twelve consecutive months. These small operations are not included in the data on mining sites presented in Table 3-29; but they probably represent a significant portion of self-employment in mining in the region.

During the building boom earlier in this decade, demand for bluestone was strong, driven not only by traditional uses such as sidewalks and plazas, but also by its increased use for other purposes such as countertops. Although there has been some decline in demand since the onset of the recession, the New York State Bluestone Association reports that demand has held up relatively well.

The acreage occupied by sand and gravel mining operations in watershed towns, as shown in Table 3-29, is double that occupied by bluestone mines. Sand and gravel mining sites – including several that are owned by town governments – are largely used for road work and other heavy construction. While these operations generally serve local markets and do not have the economic value of bluestone, they provide a needed commodity and help local communities avoid the cost of importing sand and gravel.

Forestry and logging

Forestry and logging have long been part of the West-of-Hudson watershed economy – although the scale of these operations is somewhat smaller than that of the mining business, and independent

[1] New York State Department of Environmental Conservation, *Report to the Governor and the Legislature Regarding Bluestone Mining in New York State*, March 15, 2008. Most of New York's bluestone mines outside Delaware County are located in Broome County.

operators play a larger role. In 2008, the State Department of Labor reports that there were 25 forestry and logging businesses in the five West-of-Hudson counties, employing a total of 60 wage-and-salary workers, with average annual earnings of $24,766. In 2007, according to the Census Bureau, there were also 236 self-employed logging and forestry workers in the five counties, with total annual receipts averaging about $57,000.

About 81 percent of the land area of the West-of-Hudson watershed – a total of about 823,500 acres – is covered by forest. State-owned protected land, on which logging is prohibited, accounts for nearly one-quarter of this total. The land acquired by NYCDEP in fee simple in the West-of-Hudson watershed includes approximately 47,885 acres of forest land – about 5.8 percent of all forest land in the watershed. NYCDEP conservation easements and WAC agricultural easements covered an additional 25,417 acres of forest land – about 3.1 percent of all forest land.

Beyond the boundaries of the watershed, much of the land area of the five West-of-Hudson counties is also forested – a total of 2.36 million acres of forest land, or 75 percent of the combined area of the five counties.

Outdoor recreation

Outdoor recreation is an important segment of the watershed region's economy. Opportunities for outdoor recreation attract both second-home owners and visitors to the region – and for many full-time residents, they are a major part of what makes the region an attractive place to live. Ski centers in Hunter, Windham and at Belleayre are among the region's largest employers. Many other small and mid-sized businesses provide goods and services related to outdoor recreation – ski shops, rental and servicing of boats and canoes, snowmobile sales and servicing, and many others. Moreover, people who come to the region to take advantage of its recreational opportunities also support a wide range of other businesses, including hotels, restaurants and retailers.

Data published by the New York State Department of Labor (Table 3-30) highlight the role of tourism-related industries in the economy of five West-of-Hudson counties. Employment in these industries in 2008 ranged from 2.6 percent of total payroll employment in Delaware County to 10.9 percent in Greene County.

The "location quotients" presented in the table are a measure of the degree to which these industries are concentrated in each county. A location quotient of 1.0 means that these industries share of total employment is the same in a given county as it is for the U.S. as a whole. An "LQ" of less than 1.0 means that these industries account for a lower percentage of employment than they do at the national level; an LQ of more than 1.0 means a higher percentage. As the table shows, location quotients for the travel-and-tourism sector range from a relatively low 0.66 in Delaware County to a very high 2.77 in Greene County. (By way of comparison, the travel-and-tourism location quotient for New York State as a whole is 0.86.)

Table 3-30: Travel and Tourism Employment by County, 2008 ($ millions)

	Travel & Tourism		Travel & Tourism as % of Area Jobs & Wages		Location
	Employment	*Wages*	*Employment*	*Wages*	**Quotient**
Delaware	430	$ 6.4	2.6%	1.1%	0.66
Greene	1,600	$ 60.6	10.9%	6.1%	2.77
Schoharie	320	$ 4.6	3.6%	1.6%	0.99
Sullivan	1,770	$ 37.2	6.8%	4.2%	1.69
Ulster	3,760	$ 84.9	6.2%	3.9%	1.45
New York State	*363,200*	*$ 13,459.8*	*4.2%*	*2.6%*	*0.86*

Source: New York State Department of Labor, Quarterly Census of Employment and Wages

As noted previously, recreational businesses, hotels and restaurants (a somewhat broader definition of visitor-related industries than that used in the DOL analysis cited above) together accounted in 2007 for about 15 percent of all private payroll employment in West-of-Hudson watershed ZIP codes (as shown in Figure 3-7) – more than 5,300 jobs. Moreover, employment in these three industries plus retailing grew by about 6.7 percent between 1997 and 2007. This sector was thus one of the region's leading sources of new jobs during this period.

It is important to note, however, that much of the employment in this sector of the region's economy consists of relatively low-paid, seasonal or part-time jobs. Table 3-31 shows average annual earnings per employee in the relevant industries.

Table 3-31: Average annual wages in selected industries, by county, 2008

	Hotel	**Restaurant**	**Retailing**	**Recreation**
Delaware	$16,192	$11,115	$27,183	$15,945
Greene	$14,175	$12,600	$24.851	$19,873
Schoharie	$16,409	$11,455	$23,901	$15,088
Sullivan	$21,841	$12,828	$24,675	$23,019
Ulster	$22,705	$13,532	$25,606	$21,960

FUTURE CONDITIONS WITHOUT THE PROPOSED ACTION

In the absence of the proposed action, socioeconomic conditions in the West-of-Hudson watershed towns during the period of the new Water Supply Permit are likely to be similar to those of the past few years – with some notable differences.

Population growth is likely to be considerably slower through 2027 than it has been in the past decade. Between 2000 and 2010, county-level projections published by Cornell University's Program on Applied Demographics estimate that the population of the five west-of-Hudson counties, taken together, will grow by 2.44 percent. Between 2010 and 2020, growth is projected to slow to 1.11 percent – and between 2020 and 2025, the population of the five-county area is expected to decline by 0.24 percent. The projections produced by the Program on Applied Demographics are shown in Table 3-32.

Table 3-32: Population change and projections through 2025, by county

County	2000	2005	2010	2020	2025
Delaware	48,055	46,842	45,939	42,995	40,980
Greene	48,195	48,946	49,718	51,029	51,388
Schoharie	31,582	31,933	31,670	30,678	29,864
Sullivan	73,966	75,539	77,020	79,322	79,845
Ulster	177,749	181,423	184,479	189,107	190,123
TOTAL	**381,547**	**386,688**	**390,836**	**395,151**	**394,225**

Source: Cornell University Program on Applied Demographics

The demand for housing that drives residential development in the West-of-Hudson region is fueled partly by population growth, and partly by the market for second homes. Demand for second homes appears unlikely to return in the near future to the levels seen earlier in this decade. In the near term, demand is likely to be constrained by a slow recovery from the recession of 2008-09, and by more conservative mortgage lending practices. Longer-term, demographic trends may limit demand.

Several sources cite the 45-to-64 age group as being the heart of the market for second homes. As the baby boom generation matured, the number of New York metropolitan area residents in this age bracket grew rapidly after 1990, contributing to the surge in demand in this segment of the region's housing market. After about 2015, however, the number of New York metro area residents in this age bracket will flatten out and then start to decline. There will still be a market for second homes – but the growth in demand seen in this part of the market during the past two decades is unlikely to be repeated. These trends are summarized in Table 3-33.

Table 3-33: Population projections for residents age 45-to-64, New York metropolitan area

	1990	2000	2005	2015	2025		% Change 1990-2000	% Change 1990-2005	% Change 1990-2025	% Change 2005-2015	% Change 2005-2025	%Change 2015-2025
New York County	309,545	347,487	378,854	408,896	400,725		12.26%	22.39%	29.46%	7.93%	5.77%	-2.00%
Kings County	419,020	508,714	552,915	606,092	602,619		21.41%	31.95%	43.82%	9.62%	8.99%	-0.57%
Queens County	401,892	484,676	531,155	631,523	657,065		20.60%	32.16%	63.49%	18.90%	23.70%	4.04%
Richmond County	74,992	103,914	121,833	147,791	153,619		38.57%	62.46%	104.85%	21.31%	26.09%	3.94%
Bronx County	213,122	251,048	275,140	323,883	331,826		17.80%	29.10%	55.70%	17.72%	20.60%	2.45%
Nassau County	295,437	320,944	359,504	391,738	350,618		8.63%	21.69%	18.68%	8.97%	-2.47%	-10.50%
Rockland County	60,918	69,711	74,411	81,604	78,983		14.43%	22.15%	29.65%	9.67%	6.14%	-3.21%
Westchester County	192,534	216,678	243,039	277,376	265,785		12.54%	26.23%	38.05%	14.13%	9.36%	-4.18%
TOTAL	1,967,460	2,303,172	2,536,851	2,868,903	2,841,240		17.06%	28.94%	44.41%	13.09%	12.00%	-0.96%

To the extent that demand for residential development is driven in part by population growth, the estimates of land required to support new development may be overstated. The estimates of land required to support residential development in watershed towns between 2010 and 2022 and between 2022 and 2027 that are used in our analysis of the impact of the proposed action effectively assume that both of these elements of demand (resident population growth and second-home buyers) will be

sustained at the levels that prevailed during the past decade. The resulting estimates are summarized below in Table 3-34.[1]

Table 3-34: Annual housing unit development through 2027

			2010-2022			2010-2027		
County	Town	Annual rate of development (units/year)	Total housing units, 2010-2022	Total acres	Total developable acres	Total housing units, 2010-2027	Total acres	Total developable acres
Delaware	Andes	12	145	1,707	486	205	2,418	689
Delaware	Bovina	2	22	187	68	31	265	96
Delaware	Colchester	13	151	861	296	214	1,219	419
Delaware	Delhi	10	118	743	264	167	1,053	375
Delaware	Deposit	9	108	562	230	153	796	326
Delaware	Franklin	8	97	805	520	137	1,141	737
Delaware	Hamden	13	159	1,682	701	225	2,383	993
Delaware	Harpersfield	4	45	293	200	64	414	283
Delaware	Kortright	9	102	785	406	145	1,113	575
Delaware	Masonville	5	63	519	447	90	736	633
Delaware	Meredith	4	48	557	469	68	789	665
Delaware	Middletown	21	249	1,446	513	353	2,049	727
Delaware	Roxbury	8	96	518	216	136	734	306
Delaware	Stamford	7	87	459	199	123	651	281
Delaware	Tompkins	10	120	1,392	572	170	1,972	810
Delaware	Walton	12	141	862	329	200	1,221	466
SUBTOTAL Delaware County			**1,751**	**13,379**	**5,916**	**2,481**	**18,954**	**8,381**
Greene	Ashland	7	88	449	260	125	636	369
Greene	Halcott	2	24	206	79	34	292	112
Greene	Hunter	25	305	609	348	432	863	494
Greene	Jewett	13	157	818	511	223	1,159	723
Greene	Lexington	9	110	682	314	156	966	445
Greene	Prattsville	4	47	247	100	66	350	142
Greene	Windham	37	444	888	540	629	1,258	765
SUBTOTAL Greene County			**1,175**	**3,900**	**2,154**	**1,664**	**5,525**	**3,051**
Schoharie	Conesville	12	143	899	560	202	1,273	793
Schoharie	Gilboa	7	87	463	251	124	656	355
Schoharie	Jefferson	9	111	1,096	639	157	1,552	906
SUBTOTAL Schoharie County			**341**	**2,457**	**1,450**	**483**	**3,481**	**2,054**
Sullivan	Neversink	38	461	2,027	1,501	653	2,871	2,127
SUBTOTAL Sullivan County			**461**	**2,027**	**1,501**	**653**	**2,871**	**2,127**
Ulster	Denning	3	36	241	71	51	342	100
Ulster	Hardenburgh	3	36	540	166	51	765	235
Ulster	Hurley	16	190	551	410	269	781	580
Ulster	Olive	23	271	1,194	748	384	1,692	1,060
Ulster	Shandaken	18	217	650	186	307	921	264
Ulster	Wawarsing	48	581	1,163	802	824	1,648	1,136
Ulster	Woodstock	17	201	785	479	285	1,112	679
SUBTOTAL Ulster County			**1,533**	**5,124**	**2,862**	**2,171**	**7,259**	**4,054**
GRAND TOTAL West-of-Hudson			**5,260**	**26,888**	**13,883**	**7,451**	**38,091**	**19,667**

[1] Based on the highest estimates of the US Census, building permit and Office of Real Property data between 1990 and 2008). See Methodology section above for details on how these estimates were derived.

While it is appropriate to use these historically-based estimates of residential development for purposes of constructing a "reasonable worst-case scenario" regarding the impact of the proposed action, it is important to recognize that they may significantly overstate the scale of new residential development that is likely to occur in the West-of-Hudson watershed towns, with or without the proposed action.

Information on planned or proposed developments that have been reviewed or are under review by NYCDEP (for compliance with stormwater planning requirements, or pursuant to SEQRA, or for other purposes) suggests that new development in the region during the next several years is likely to be limited. Moreover, as shown in Table 3-35, much of the planned new development is concentrated in a relatively small number of towns; the Town of Windham alone accounts for more than half the units shown.

Table 3-35: Planned or proposed residential units in the West-of-Hudson watershed, March, 2010

County	Town	Approved	Not Yet Approved
Greene	Windham	409	102
Ulster	Shandaken	259	-
Delaware	Middletown	21	-
Greene	Jewett	13	-
Delaware	Bovina	8	-
Delaware	Andes	8	1
Greene	Hunter	8	53
Total West-of-Hudson		**726**	**103**

Source: NYCDEP project review files

Beyond trends in population and residential development, several other trends seen in the past few years are likely to continue:

- The population of the West-of-Hudson watershed region, as noted previously, has been aging – and this trend will continue. While the total population of the five counties is expected to decline slightly, the Cornell Program in Applied Demographics expects the number of residents age 65 and older to increase by more than 40 percent. As a result, the percentage of the population of the five counties age 65 and older is expected to rise from 15.8 percent to 22.2 percent by 2025. The Cornell population projections are shown in Table 3-36;

Table 3-36: Projected population 65 and older, as a percent of the total population

	2010	2015	2020	2025
Delaware County	22.4%	25.5%	28.9%	32.3%
Greene County	15.8%	17.3%	19.1%	21.4%
Schoharie County	16.2%	18.2%	20.7%	23.4%
Sullivan County	15.3%	17.2%	19.4%	21.7%
Ulster County	14.3%	16.1%	18.1%	20.2%
TOTAL WEST OF HUDSON	15.8%	17.7%	19.9%	22.2%

- Consistent with broader regional trends, agriculture in the West-of-Hudson watershed region is likely to continue its long-term decline – whether measured by total farmland acreage, by employment or by agriculture's share of the region's overall economy;
- Especially as the broader regional economy begins to recover, the watershed region could during the next several years see some continued growth in outdoor recreation and related tourist-based industries; and
- With the possible exception of several towns where development pressures are still strong, land and housing prices are unlikely to return during the next several years to the levels reached in the mid-2000's.

FUTURE CONDITIONS WITH THE PROPOSED ACTION

This section discusses potential impacts of additional land acquisition under the Extended LAP on socioeconomic conditions in West-of-Hudson watershed towns. The assessment examines potential impacts on:

- Supply of developable land
- Land prices, housing prices and affordability
- Industries and businesses
- Local government revenues

Impacts on Supply of Developable Land – 10 Year Projection Scenario

This section discusses LAP's projected potential impact through 2022 on the supply of developable land in watershed towns, and the implications of this impact on towns' growth potential.

After removing towns with less than 5 percent of their area within the watershed, a four-step process was undertaken to estimate the impact of NYCDEP's LAP program on developable land at the town level through 2022 (see *Methodology* section above for details on the evaluation methods). More detailed town level assessments were conducted for towns with the highest level of potential impacts.

Step 1: Determine available developable land as of 2009
Step 2: Project housing demand through 2022 *(see Future Conditions Without the Proposed Action)*
Step 3: Project LAP acquisitions through 2022 and the portion of those lands that are developable
Step 4: Estimate remaining developable land in 2022 after housing demand and LAP acquisitions

Reasonable worst case estimates of land to be acquired under the Extended LAP are provided in Chapter 1, *Project Description*. The projections account for the future "areas of high focus" according to the Long-Term Land Acquisition Plan and represent a reasonable worst case scenario since the total amount of land to be acquired is projected to be greater in the next twelve years than in the previous twelve, although, this is not in fact expected to be the case. Based on this approach, NYCDEP projected purchases in fee simple and conservation easements in the West-of-Hudson watershed between 2010 and 2022 are projected to total 80,948 acres, as compared with 71,721 through 2009. Purchases of farm easements by the Watershed Agricultural Council from 2010 through 2022 will total 16,000 acres.

The amount of *developable* land acquired was estimated using the methods described in the *Methodology* section above.

The town-by-town results of this analysis are presented in Table 3-37. (The towns are ranked in reverse order of the percentage of the town's 2009 supply of developable land projected to be remaining in 2022.) The analysis suggests that after accounting for LAP acquisition and projected residential development through 2022, all 34 towns will have sufficient land available to accommodate additional residential development well beyond 2022.

As Table 3-37A shows, for the 34 towns collectively, land to be acquired by LAP between 2010 and 2022 represents about 11 percent of 2009's available developable land; and new residential development over that time period is estimated to consume another 6 percent. Overall, approximately 84 percent of 2009's available developable land would still remain in 2022. Each town would have at least 65 percent of its 2009 supply of developable land remaining in 2022: As discussed above in this section and in more detail in the methodology section, the analysis is very conservative, representing a reasonable worst case scenario, and the percentage of developable land remaining in 2022 is likely to be higher.

For the region as a whole, this analysis strongly suggests that the projected level of acquisitions by NYCDEP will not significantly constrain new development in the West-of-Hudson watershed – either between now and 2022 or afterward. During the next twelve years, West-of-Hudson watershed communities will confront a variety of obstacles to economic growth and development – but for the region as a whole, the availability of developable land does not appear to be one of them.

Comparing the columns "Developable Land Needed for Housing through 2022" and "Developable Land Left in 2022,"(last white column to first yellow column in Table 3-37) demonstrates that should housing demand continue beyond 2022 at the pace projected through 2022, there is ample land available in each town for many years to come.

Using the data presented in Table 3-37, towns that met either of two criteria were selected for further review:

- Those in which LAP is projected to acquire 20 percent or more of the town's 2009 supply of developable land; and
- Those in which 10 percent or more of the town's 2009 supply of developable land is projected to be consumed by residential development and LAP is projected to acquire greater than 5 percent of the town's 2009 supply of developable land.

As shown in Table 3-37A, 14 towns (those with bold text in the LAP contribution or housing contribution columns) meet these criteria. These towns – along with five others selected for reasons of geographic balance – are shaded in yellow in Table 3-37A and are assessed in more detail in Chapter 4, *Town Level Assessments.* In the remaining 15 towns (those not shaded in yellow), the percentage of the town's 2009 supply of developable land still remaining in 2022 ranges from 80 to 95 percent.

In some towns, particularly those with very mountainous terrain or other natural features not suitable for development, or that include large areas already protected by New York City, or that are already highly developed, available developable land may be limited. An additional analysis was therefore performed to evaluate the percent of a town's total land area that is developable and the effects of land acquisition on that supply of developable land.

Table 3-38A lists six towns where the supply of developable land in 2009 is estimated to be less than 10 percent of the town's total land area, or less than 3,000 acres. All six are already included among the 19 towns subjected to further review under the criteria discussed above. The implications of the Extended LAP's impact on these towns' limited supply of developable land in the context of future growth demand in these towns will be addressed in the individual town-level assessments presented Chapter 4.

Table 3-37A: Remaining developable acreage in 2022, by town, after projected LAP activity and development

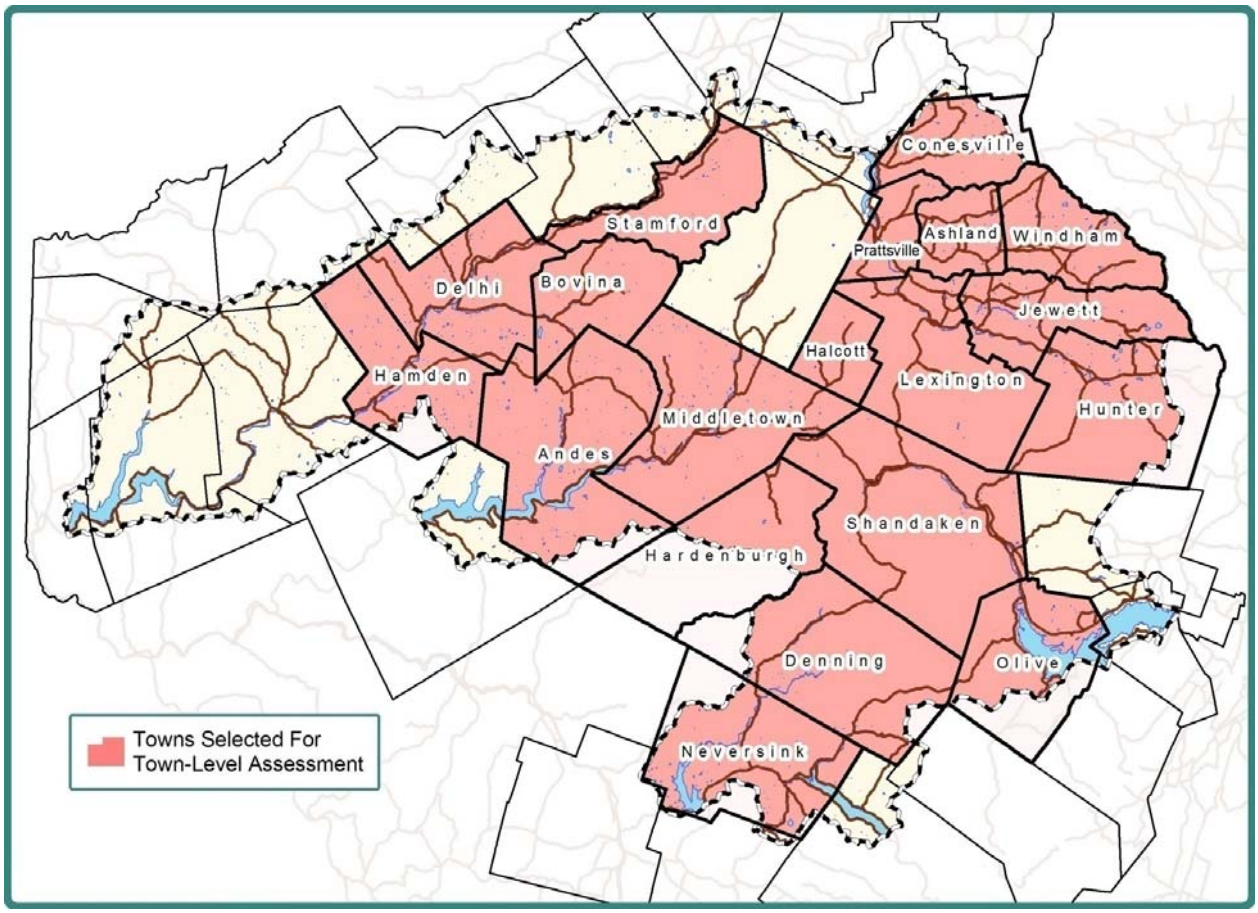
County	Town	Available developable acres, 2009	Projected developable land acquired through 2022	Developable land needed for housing through 2022	Developable land left in 2022	% of 2009 developable land left in 2022	LAP contribution	Housing contribution	% of town area developable, 2009	% of town area developable, 2022
Ulster	Denning	4,187	1,359	71	2,757	65.9%	**32.5%**	1.6%	6.4%	4.2%
Greene	Lexington	3,475	871	314	2,290	65.9%	**25.1%**	9.0%	6.8%	4.5%
Greene	Prattsville	2,773	820	100	1,853	66.8%	**29.5%**	3.6%	20.1%	13.4%
Ulster	Hardenburgh	2,692	636	166	1,891	70.2%	**23.6%**	6.0%	5.2%	3.7%
Greene	Ashland	3,351	698	260	2,393	71.4%	**20.8%**	7.8%	21.0%	15.0%
Ulster	Olive	5,684	871	748	4,065	71.5%	15.3%	**12.8%**	15.1%	10.8%
Greene	Halcott	1,668	389	79	1,199	71.9%	**23.3%**	4.8%	11.6%	8.3%
Delaware	Stamford	4,939	1,187	199	3,554	72.0%	**24.0%**	4.0%	15.9%	11.4%
Schoharie	Conesville	5,525	955	560	4,009	72.6%	17.3%	**10.1%**	21.9%	15.9%
Sullivan	Neversink	12,797	1,976	1,501	9,319	72.8%	15.4%	**11.7%**	24.1%	17.6%
Delaware	Andes	7,221	1,472	486	5,262	72.9%	**20.4%**	6.7%	10.3%	7.5%
Greene	Windham	5,272	880	540	3,853	73.1%	16.7%	**10.2%**	18.2%	13.3%
Ulster	Shandaken	1,444	185	186	1,073	74.3%	12.8%	**11.9%**	1.8%	1.4%
Greene	Jewett	6,292	1,052	511	4,729	75.2%	16.7%	8.1%	19.6%	14.7%
Delaware	Hamden	6,146	724	701	4,721	76.8%	11.8%	**11.4%**	16.0%	12.3%
Delaware	Middletown	7,455	1,191	513	5,751	77.1%	16.0%	6.9%	12.0%	9.3%
Greene	Hunter	6,722	1,166	348	5,207	77.5%	17.3%	5.2%	11.6%	9.0%
Delaware	Delhi	5,851	990	264	4,596	78.6%	16.9%	4.5%	14.2%	11.1%
Delaware	Bovina	3,726	711	68	2,948	79.1%	19.1%	1.8%	13.1%	10.4%
Delaware	Roxbury	5,927	951	216	4,760	80.3%	16.1%	3.6%	10.6%	8.5%
Ulster	Woodstock	6,759	839	479	5,441	80.5%	12.4%	7.0%	15.6%	12.6%
Delaware	Walton	8,845	1,268	329	7,249	81.9%	14.3%	3.7%	14.2%	11.6%
Delaware	Tompkins	10,947	1,215	572	9,161	83.7%	11.1%	5.2%	17.4%	14.6%
Delaware	Kortright	8,370	630	406	7,334	87.6%	7.5%	4.9%	20.9%	18.3%
Ulster	Hurley	5,003	134	410	4,460	89.1%	2.7%	8.0%	25.9%	23.0%
Delaware	Meredith	13,063	824	469	11,769	90.1%	6.3%	3.6%	35.0%	31.5%
Schoharie	Jefferson	8,722	208	639	7,874	90.3%	2.4%	7.3%	31.4%	28.4%
Schoharie	Gilboa	10,583	714	251	9,619	90.9%	6.7%	2.4%	28.2%	25.6%
Delaware	Masonville	10,890	417	447	10,027	92.1%	3.8%	4.1%	31.2%	28.7%
Ulster	Wawarsing	23,610	958	802	21,850	92.5%	4.1%	3.2%	28.0%	25.9%
Delaware	Deposit	4,052	24	230	3,798	93.7%	0.6%	5.7%	14.5%	13.6%
Delaware	Colchester	9,406	234	296	8,875	94.4%	2.5%	3.1%	10.7%	10.1%
Delaware	Harpersfield	9,959	311	200	9,448	94.9%	3.1%	2.0%	36.8%	34.9%
Delaware	Franklin	19,006	381	520	18,104	95.3%	2.0%	2.7%	36.4%	34.7%
	TOTAL	**252,361**	**27,241**	**13,883**	**211,238**	**83.7%**	**10.8%**	**5.5%**	**16.6%**	**13.9%**

Table 3-38A: Towns with less than 10 percent (or less than 3,000 acres of) developable land available in 2009

County	Town	Total town land	Available developable acres, 2009	Developable land left in 2022	% of town area developable, 2009	% of town area developable, 2022
Ulster	Shandaken	78,875	1,444	1,073	1.8%	1.4%
Ulster	Hardenburgh	51,756	2,692	1,891	5.2%	3.7%
Ulster	Denning	65,430	4,187	2,757	6.4%	4.2%
Greene	Lexington	51,274	3,475	2,290	6.8%	4.5%
Greene	Halcott	14,375	1,598	1,199	11.1%	8.3%
Greene	Prattsville	13,786	2,773	1,853	20.1%	13.4%

As noted above, detailed assessments for 19 towns are found in Chapter 4, *Town Level Assessments.* The towns selected are shown in Figure 3-9.

Figure 3-9: Towns Selected for Town-Level Assessment



A summary of the results of the analysis is provided below for each of these towns.

- ***Denning*** is a very low-density rural community, with an estimated population of 524 in 2008, and one of the highest percentages of existing protected land (mostly State-owned) among watershed towns. Through 2022, NYCDEP is projected to acquire 32 percent of the Town's remaining developable land. But because the projected rate of new development is low, only two percent of the current supply of developable land is projected to be needed to support new residential development through 2022. Thus, the Town would have 66 percent of its 2009 developable land remaining in 2022.

- ***Olive*** (population 4,750) has seen significant growth in its resident population since 1990. As a result, while NYCDEP is projected to acquire a much lower percentage of the Town's remaining developable land than in Denning – 15 percent – the amount of land projected to be needed to support new development through 2022 is much greater – 13 percent of Olive's current supply of such land. However, most new development has been concentrated along Routes 28 and 28A, while NYCDEP is most likely to be acquiring land outside of these areas. Moreover, the Town has proposed and NYCDEP is comfortable with more than doubling Olive's existing designated hamlet area, which will ensure that substantial acreage will be available to support new commercial and residential development. The Town is projected to have 72 percent of its 2009 developable land remaining in 2022. Finally, our projection of the amount of land needed for new residential development may be conservative – development in Olive has been slower in this decade than it was in the 1990's.

- ***Shandaken*** (population 3,400) has the highest percentage of existing protected land (72 percent) of any watershed town. That feature, along with its mountainous terrain, leaves the Town with relatively little available developable land. As in Olive, NYCDEP's projected acquisitions represent a relatively low percentage of the Town's developable land (13 percent), but the share of developable land projected to be needed to support the projected rate of residential development through 2022 is relatively high (12 percent). Nevertheless, the Town would have 74 percent of its 2009 developable land remaining in 2022. Recognizing the extent to which Shandaken is already protected, NYCDEP and the Town have proposed that in the future NYCDEP will not actively solicit individual land-owners, but will instead respond only to owner-initiated inquiries. NYCDEP is comfortable with that proposal.

- ***Hardenburgh*** (population 211) is a very low-density rural town – with just 2.6 persons per square mile, it has the lowest population density of any watershed town. As in Denning, the share of the Town's developable land projected as being acquired by NYCDEP is relatively high (24 percent); but the amount of land project to be needed to support continued slow growth is small – only about six percent of the current supply of developable land. Thus, the town would have 70 percent of its 2009 developable land remaining in 2022.

- ***Windham*** (population 1,755) has been one of the West-of-Hudson watershed's fastest-growing towns since 2000. The Town's economy is built primarily on skiing and other leisure activity. The Town has a large second-home sector; in 2000, 56 percent of its housing units were for seasonal or recreational use – the highest percentage of any watershed town. With NYCDEP projected to acquire 17 percent of the Town's developable land and 10 percent projected to be needed to support projected residential development, some competition for land might be expected. The Town would have 73 percent of its 2009 developable land remaining in 2022. However, a closer look at where development is occurring shows that it has been clustered in

and around the existing hamlets and around Windham Mountain. Expansion of the designated hamlet area by roughly 2,800 acres – as proposed by the Town and accepted by NYCDEP – would provide ample room for additional development in these same high-growth areas through 2022 and beyond. Moreover, by using a 2-acre minimum in our calculation of land needed to support future development, we may be overstating the amount of land that will be required. The actual median parcel size for new units built since 2000 has been only 1.3 acres.

- ***Hunter***'s economy, like Windham's, is built primarily on skiing and other recreational activity. It has a somewhat larger resident population (2,750), and a large second-home sector (48 percent of all housing units in 2000 were for seasonal or recreational use); but the Town has grown at a much slower rate in recent years. NYCDEP is projected to acquire 17 percent of the Town's current supply of developable land; and five percent would be required to support the projected rate of new residential development through 2022. Thus, the Town would have 77 percent of its 2009 developable land remaining in 2022. With more than 3,200 acres designated, Hunter already has the largest designated hamlet area among watershed towns. Under the Town's proposal, which NYCDEP has accepted, this area will be nearly doubled, to more than 6,100 acres. This agreement would allow further development in and around the villages of Hunter and Tannersville, where development has historically occurred, while focusing NYCDEP's acquisitions on outlying areas.

- ***Ashland*** (population 827) has seen strong population growth in recent years, combined with somewhat faster housing growth. Like most of Greene County's other "mountaintop towns," the Town has a strong second home sector: about 42 percent of all housing units in 2000 were for seasonal or recreational use. Much of the Town's recent development has occurred along Route 10, or on the eastern side of the Town (bordering Windham). NYCDEP is projected to acquire 21 percent of the Town's current supply of developable land; and eight percent would be required to support the projected rate of new residential development through 2022. Thus, the Town would have 71 percent of its 2009 developable land remaining in 2022. As in Windham and Hunter, a proposed major expansion of Ashland's designated hamlet areas – from 362 to more than 2,000 acres – would alleviate potential for conflict between NYCDEP's projected acquisitions and the need for land to support further development.

- ***Jewett*** (population 1,015) is a low-density, primarily rural town located between Windham and Hunter. Jewett has a relatively large second-home population – 53 percent of all housing units in 2000 were for seasonal or recreational use. Through 2022, NYCDEP is projected to acquire 17 percent of the Town's current supply of developable land; and eight percent would be required to support the projected rate of new residential development. Thus, the Town would have 75 percent of its 2009 developable land remaining in 2022. As elsewhere, a proposed expansion of designated hamlet areas from 652 to 2,666 acres would alleviate potential conflict between continued development and the projected acquisition of additional land by NYCDEP.

- ***Lexington*** (population 874) is another low-density, primarily rural town with a relatively large second-home population – 54 percent of all housing units in 2000 were for seasonal or recreational use. Through 2022, NYCDEP is projected to acquire 25 percent of the Town's current supply of developable land; and nine percent would be required to support the projected rate of new residential development. Thus, the Town would have 66 percent of its 2009 developable land remaining in 2022. The Town has proposed, and NYCDEP supports, expansion of designated hamlet areas from 362 to 737 acres.

- ***Halcott*** is an almost exclusively rural community, with the smallest area and population (203) of any watershed town. The Town has very little commercial activity (mostly home-based businesses); but it has a substantial second-home sector – 42 percent of all housing units in 2000 were for seasonal or recreational use. Through 2022, NYCDEP is projected to acquire 23 percent of Halcott's current supply of developable land, while five percent is projected to be required to support the level of residential development projected for the same period. Thus, the town would have 72 percent of its 2009 developable land remaining in 2022. The Town's comprehensive plan highlights a strong local preference for maintaining its rural character, natural beauty and support for outdoor recreation – and notes strong resident opposition to any large-scale commercial or industrial development. Like Denning, Halcott has not sought to expand its 69-acre designated hamlet area.

- ***Prattsville*** (population 712) is also a primarily rural town. The Town's population declined in the 1990's; it has rebounded somewhat since 2000, but remains below the 1990 level. The second-home market is smaller than those in other mountaintop towns – 29 percent of all units are seasonal or recreational. The Town's business base consists almost entirely of retail and service businesses supporting the local population. Through 2022, NYCDEP is projected to acquire 30 percent of Prattsville's current supply of developable land. New residential development, however, is projected to average only four units per year, and to consume only four percent of the Town's developable land. Thus, the Town would have 67 percent of its 2009 developable land remaining in 2022. The Town has a 207-acre hamlet area, which it has chosen not to expand.

- Among watershed towns, ***Stamford*** (population 1,954) is notable for the diversity of its economy. It includes one of the region's largest concentrations of agriculture, outdoor recreation and the arts in and around the Village of Stamford, a substantial second-home sector, and manufacturing and book retailing in the Village of Hobart. As of July 2009, WAC has acquired easements on 4,849 acres of farmland in Stamford – by far the most in any watershed town. Through 2022, NYCDEP is projected to acquire 24 percent of the Town's current supply of developable land. About two-thirds of this total is expected to be developable farmland placed under WAC easements, allowing for continued farm use; only one-third would be land directly acquired by NYCDEP in fee simple or as conservation easements. With a relatively low rate of new residential development — only four percent of the current supply of developable land is projected to be required for new development through 2022. Thus, the Town would have 72 percent of its 2009 developable land remaining in 2022. Designated hamlet areas in Stamford currently total 1,333 acres. The Town has not proposed to expand them.

- ***Middletown*** is a primarily rural community (population 3,881) with a mixed economy that has experienced moderate growth in recent years. Most commercial activity is concentrated in the Villages of Margaretville and Fleischmanns and the hamlet of Arkville along Route 28, and near in the northern part of the town, near Roxbury. About 36 percent of all housing units are for seasonal or recreational use. NYCDEP is projected to acquire 16 percent of Middletown's current supply of developable land through 2022. An additional seven percent of the current supply would be required to support the projected rate of new residential development – about 21 new units per year – through 2022. Thus, the Town would have 77 percent of its 2009 developable land remaining in 2022. Middletown currently has a total of 1,734 acres in designated hamlet areas. The Town has proposed to expand the designated areas by 229 acres, to a total of 2,032 acres. NYCDEP has accepted the Town's proposal.

- ***Andes*** is a primarily rural, low-density community with a roughly stable resident population of 1,336. In 2000, 49 percent of all housing units were seasonal or recreational; and it appears that there has been continued growth in this sector since 2000. Commercial activity is concentrated in the hamlet (and former Village) of Andes – which, relative to its size, has seen substantial new business development since 2000. NYCDEP is projected to acquire 20 percent of the current supply of developable land through 2022; and about seven percent will be required to support projected new residential development through 2022. Thus, the Town would have 74 percent of its 2009 developable land remaining in 2022. Andes has a designated hamlet area of 1,047 acres, which the Town has chosen not to expand.

- ***Bovina***, with an estimated population of 633 in 2008, is a low-density, primarily rural town with a substantial second-home population – 40 percent of all housing units in 2000 were for seasonal or recreational use. Through 2022, NYCDEP is projected to acquire about 19 percent of the Town's current supply of developable land. However, residential growth in the town has been slow. Only about two percent of the Town's developable land would be required to support the projected rate of new residential development through 2022. Thus, the Town would have 79 percent of its 2009 developable land remaining in 2022.

- ***Hamden*** is a rural town (population 1,237) in the geographic center of Delaware County. Most businesses are clustered along Route 10, while low-density residential uses are scattered throughout the town. The southeastern part of the Town (about 13 percent of its total land area) lies outside the watershed. Acquisitions of developable land by NYCDEP are projected to total 12 percent of the Town's total supply of developable land as of 2009, while land required for new residential development during the same period is projected at 11 percent of the current supply. Thus, the Town would have 77 percent of its 2009 developable land remaining in 2022. In 1997, the Town designated hamlet areas totaling 420 acres. NYCDEP and the Town have proposed a significant expansion of the designated areas to a total of 2,854 acres, which NYCDEP has agreed is appropriate. Both the existing and proposed hamlet areas are primarily along Route 10, where development typically occurs.

- ***Delhi*** (population 4,547) is a low-density, primarily rural town. More than half the Town's population is concentrated in the Village of Delhi – the county seat for Delaware County, the site of the SUNY-Delhi campus, and a commercial center for Delhi and several other towns. Through 2022, NYCDEP is projected to acquire 17 percent of the Town's current supply of developable land; and five percent would be required to support the projected rate of new residential development. Thus, the Town would have 79 percent of its 2009 developable land remaining in 2022. The Town has proposed an expansion of designated hamlet areas from 2,346 to 4,902 acres, alleviating potential conflict between continued development and the projected acquisition of additional land by NYCDEP.

- ***Conesville*** is a low-density rural community (population 714) in Schoharie County with a diverse agricultural sector, but relatively few commercial uses. About 54 percent of the Town's housing units are seasonal or recreational; the Town saw strong growth in this sector in the 1990s, but the trend has slowed since then. The Town's comprehensive plan calls for preserving its rural character, natural beauty and remaining agricultural activity; and specifically urges greater use of WAC easements to preserve farmland. Acquisitions by NYCDEP through 2022 are projected to total 17 percent of the Town's total supply of developable land as of 2009. About one-quarter of new acquisitions are expected to be WAC easements. Land required for new residential development during the same period is projected at 10 percent of the current

supply of developable land; however, because this projected growth rate is based in part on strong growth in the 1990s, this projection may be overstated. Given the conservative projection, the Town would have 73 percent of its 2009 developable land remaining in 2022. The Town has proposed that designated hamlet areas be increased from 275 to 1,845 acres – shifting NYCDEP acquisitions away from areas that are likely to be most suited for new development. NYCDEP has accepted this proposal.

With its resident population growing by about one-third since 1990, ***Neversink*** (population 3,909 in 2008) has been one of the fastest-growing watershed towns. Development is concentrated along Route 55, and around the hamlet of Grahamsville. NYCDEP's acquisitions through 2022 are projected at 15 percent of the current supply of developable land. At the projected rate of growth, new residential development would be projected to require 12 percent the current supply of developable land. Use of 1990-2008 data on growth in housing units may, however, overstate the likely pace of future development in Neversink; building permit data suggest that growth has been significantly slower in the past decade than it was in the 1990's. Given the conservative projection, the Town would have 73 percent of its 2009 developable land remaining in 2022. The Town currently has designated hamlet areas of 1,197 acres, which it has proposed not to expand.

Impacts on Supply of Developable Land- 15 Year Greater Impact Scenario

A similar analysis was conducted for the 15 Year Greater Impact Scenario based on the approach described in "Methodology" above. The analysis in this scenario assumes that NYCDEP would acquire an additional 10 percent above the 10 Year Projection Scenario. This scenario is considered to be an extremely conservative (i.e. high impact) estimate of land to be acquired under the Extended LAP. It is highly unlikely that, even under a 15 year Water Supply Permit, additional land would be acquired beyond the levels estimated under the 10 Year Projection Scenario.

The town-by-town results of this analysis are presented in Table 3-37B. (The towns are ranked in reverse order of the percentage of the town's 2009 supply of developable land remaining in 2027.) The analysis concludes that all 34 towns have sufficient land available to accommodate both the projected acquisitions under LAP through 2027, and the projected rate of residential development beyond 2027.

As Table 3-37B shows, for the 34 towns collectively, land to be acquired by LAP between 2010 and 2027 represents about 11.7 percent of 2009's available developable land; and new residential development over that time period is estimated to consume 7.9 percent. (It was estimated above, that under the proposed action, the land to be acquired by LAP between 2010 and 2022 would represent 10.8 percent of the 34 towns' 2009 supply of developable land, and that new residential development during the same period would consume 5.5 percent.)

Overall, the 15 Year Greater Impact Scenario is projected to result in approximately 80.4 percent of 2009's available developable land to still remain in 2027, as compared with 83.7 percent under the proposed action. Each town would have at least 60 percent of its 2009 supply of developable land remaining in 2027, as compared with a minimum of 65 percent under the proposed action. As discussed above, due to the very conservative nature of the analysis, , the percentage of developable land remaining in 2027 is likely to be higher than projected for this EIS.

In some towns – including Olive, Windham, Lexington, Conesville and Neversink – the estimates of developable land remaining in 2027 that are presented in Table 3-37B are significantly lower than those for the 10 Year Projection Scenario.. In most cases, however, this is primarily a result of projecting through 2027 the relatively high rates of residential development seen in recent decades.

For the reasons provided in "Future Conditions Without the Proposed Action," these development levels are unlikely. .

For the 34 towns collectively, the additional acreage projected to be acquired through 2027 represents about 1 percent of the towns' collective supply of developable land, while new residential development between 2022 and 2027 accounts for about 2.5 percent.

Table 3-37 B: Remaining developable acreage in 2027, by town, after Extended LAP activity and development through 2027. (Cells with bold and yellow show where criteria for more detailed town level assessment was met or exceeded.)

County	Town	Available developable acres, 2009	Projected developable land acquired through 2027	Developable land needed for housing through 2027	Developable land left in 2027	% of 2009 developable land left in 2027	LAP contribution	Housing contribution
Greene	Lexington	3,475	958	445	2,072	60%	**27.6%**	**12.8%**
Ulster	Denning	4,187	1,495	97	2,595	62%	**35.7%**	2.3%
Greene	Prattsville	2,773	901	142	1,730	62%	**32.5%**	5.1%
Ulster	Olive	5,684	958	1,060	3,666	64%	16.9%	**18.6%**
Ulster	Hardenburgh	2,692	699	235	1,758	65%	**26.0%**	8.7%
Greene	Ashland	3,351	768	369	2,215	66%	**22.9%**	**11.0%**
Sullivan	Neversink	12,797	2,017	2,127	8,510	67%	16.9%	**16.6%**
Schoharie	Conesville	5,525	1,051	793	3,681	67%	19.0%	**14.4%**
Greene	Windham	5,272	968	765	3,539	67%	18.4%	**14.5%**
Greene	Halcott	1,668	428	112	1,127	68%	**25.7%**	6.7%
Ulster	Shandaken	1,444	203	264	977	68%	14.1%	**18.3%**
Delaware	Andes	7,221	1,619	689	4,912	68%	**22.4%**	9.5%
Delaware	Stamford	4,939	552	281	3,421	69%	**25.0%**	5.7%
Greene	Jewett	6,292	1,158	723	4,411	70%	18.4%	**11.5%**
Delaware	Hamden	6,146	797	993	4,356	71%	13.0%	**16.2%**
Delaware	Middletown	7,455	1,310	727	5,419	73%	17.6%	9.7%
Greene	Hunter	6,722	1,283	494	4,945	74%	19.1%	7.3%
Delaware	Delhi	5,851	1,090	375	4,387	75%	18.6%	6.4%
Ulster	Woodstock	6,759	923	679	5,157	76%	13.7%	**10.0%**
Delaware	Bovina	3,726	782	96	2,849	76%	**21.0%**	2.6%
Delaware	Roxbury	5,927	1,047	306	4,574	77%	17.7%	5.2%
Delaware	Walton	8,845	1,395	466	6,985	79%	15.8%	5.3%
Delaware	Tompkins	10,947	1,336	810	8,801	80%	12.2%	7.4%
Delaware	Kortright	8,370	693	575	7,102	85%	8.3%	6.9%
Ulster	Hurley	5,003	147	580	4,276	85%	2.9%	**11.6%**
Schoharie	Jefferson	8,722	229	906	7,587	87%	2.6%	**10.4%**
Delaware	Meredith	13,063	907	665	11,491	88%	6.9%	5.1%
Schoharie	Gilboa	10,583	785	355	9,443	89%	7.4%	3.4%
Delaware	Masonville	10,890	458	633	9,799	90%	4.2%	5.8%
Ulster	Wawarsing	23,610	1,054	1,136	21,420	91%	4.5%	4.8%
Delaware	Deposit	4,052	26	326	3,700	91%	0.6%	8.0%
Delaware	Colchester	9,406	258	419	8,728	93%	2.7%	4.5%
Delaware	Harpersfield	9,959	342	283	9,334	94%	3.4%	2.8%
Delaware	Franklin	19,006	420	737	17,849	94%	2.2%	3.9%
	TOTAL	**252,361**	**29,055**	**19,664**	**202,816**	**80%**	**11.7%**	**7.9%**

For the region as a whole, this analysis strongly suggests that the projected level of acquisitions by NYCDEP under this 15 Year Greater Impact Scenario will not significantly constrain the amount of new development in the West-of-Hudson watershed – either between now and 2027 or afterward. As with the 10 Year Projection Scenario, it would preserve sensitive natural lands, while keeping future development in hamlet and expanded areas where much of it currently occurs.

As discussed above, towns that met either of two criteria were selected for further review:

- Those in which LAP is projected to acquire 20 percent or more of the town's 2009 supply of developable land; and
- Those in which 10 percent or more of the town's 2009 supply of developable land is projected to be consumed by residential development and LAP is projected to acquire more than 5 percent of the town's 2009 supply of developable land.

As shown in Table 3-37B, 16 towns (those with bold text in the LAP contribution or housing contribution columns) meet these criteria. All but one of these towns – Woodstock – is among the towns for which individual town-level assessments were identified under the 10 Year Projection Scenario.

In ***Woodstock***, the 15 year Greater Impact Scenario would increase the percentage of the Town's 2009 supply that could be acquired under LAP from 12.4 percent as of 2022 to 13.7 percent as of 2027; and developable land needed to support projected residential development would increase from 7.0 percent of the 2009 supply of such land in 2022 to 10.0 percent in 2027. However, any potential for conflict between LAP acquisitions and the need for land for new development would be quite limited, since LAP acquisitions would take place entirely within the much less developed western half of the Town (that is, within the watershed), while new development is most likely to occur in the eastern (non-watershed) portion of the Town, in and near the hamlets of Woodstock, Bearsville and Zena. A more detailed assessment of the Extended LAP's impact on Woodstock is provided in Chapter 4.

In the remaining 17 towns (those not shaded in yellow in Table 3-37B), the percentage of the town's 2009 supply of developable land that would still remain in 2027 ranges from 73 to 94 percent.

In some towns, particularly those with mountainous terrain or other natural features not easily developed, or that include large areas of land already protected by New York State or New York City, or that are already highly developed, the supply of developable land may already be limited. An additional analysis was therefore performed to evaluate the percent of a town's total land area that is developable and the effects of land acquisition on that supply.

Table 3-38 B lists six towns where the supply of developable land in 2009 is estimated to be less than 10 percent of the town's total land area, or less than 3,000 acres.

Table 3-38 B: Towns with less than 10 percent or fewer than 3,000 acres of developable town area land remaining in 2009 under Greater Impact Scenario

County	Town	Total town land	Available developable acres, 2009	Developable land left in 2027	% of town area developable, 2009	% of town area developable, 2027
Ulster	Shandaken	78,875	1,444	977	1.8%	1.2%
Ulster	Hardenburgh	51,756	2,692	1,758	5.2%	3.4%
Ulster	Denning	65,430	4,187	2,595	6.4%	4.0%
Greene	Lexington	51,274	3,475	2,072	6.8%	4.0%
Greene	Halcott	14,375	1,598	1,127	11.1%	7.8%
Greene	Prattsville	13,786	2,773	1,730	20.1%	12.5%

The towns listed in Table 3-38B include several that are developed at low densities – including Denning, Hardenburgh, Halcott and Prattsville – where, given the projected rate of new development, the limited supply of developable land is unlikely to be a significant constraint on development through 2027.

Among the towns listed in Table 3-38B or highlighted in Table 3-38A, Shandaken appears to be the only case where a very limited supply of developable land could potentially lead to a conflict between the projected level of acquisitions under the Extended LAP and the need for land to accommodate new development. As discussed above, NYCDEP and the Town have agreed on a change in the way LAP operates in Shandaken that should substantially reduce the potential for conflict. Under this agreement, LAP would no longer actively solicit individual landowners in Shandaken, but would instead only pursue properties of interest whose owners initiate negotiations with NYCDEP.

Among the other towns highlighted in Table 3-37B, there may also be some potential for conflict in Windham – not because the supply of land is relatively limited, but because the demand for land for development has been strong during the past decade, and could be in the future. As in Shandaken, a 10 percent increase in projected acquisitions under the Extended LAP would increase somewhat the potential for conflict. In this case, any potential conflict between the Extended LAP and the need for land to accommodate future development could be alleviated by the proposed near-quadrupling of the Town's designated hamlet areas, to a total of 3,942 acres. The expanded hamlet areas would cover 14 percent of the town's land area, and would help ensure that a substantial amount of land remains available for new development through 2027 and beyond, especially since the proposed expansion areas are located in those parts of Windham where much of the Town's development is occurring.

Impacts on Land Prices, Housing Prices, and Affordability

Determining the impact of LAP on land and housing prices is difficult. Multiple factors affect the price of land in the watershed – broader real estate market trends, local demographic trends, proximity to the Thruway, etc, and determinations of causality are extremely difficult. This section examines the extent to which LAP acquisitions have and could in the future continue to influence land prices, housing prices and affordability.

Impact on land prices

Since 1997, NYCDEP's Land Acquisition Program has accounted for a significant portion land transfers in many watershed towns. As Table 3-39 shows, the Program's share of all purchases of vacant land over 10 acres, whether measured by number of transactions or total acreage, has varied significantly over time. As the end of the real estate boom of the early and mid-2000's, and the onset of the recession led to a decline in private purchases of land, NYCDEP's share of all purchases has risen. NYCDEP's share of all transactions has also varied geographically; in 2008 and 2009, for example LAP acquisitions accounted for 92 percent of all land purchases in the Greene County mountaintop towns, but only 19 percent in north central Ulster County and 22 percent in northeastern and western Delaware County.

Table 3-39: LAP transactions as a percent of all transactions of vacant and low-density residential and agricultural land greater than 10 acres, West of Hudson watershed towns, 2001-2009

	Land Acqusition Program		Other land sales		LAP / Total land sales	
Year	Transactions	Acres	Transactions	Acres	Transactions	Acres
2001	93	9,267	457	22,212	17%	29%
2002	77	6,212	597	26,927	11%	19%
2003	81	9,081	569	23,830	12%	28%
2004	64	7,647	548	22,272	10%	26%
2005	78	9,394	546	22,152	13%	30%
2006	73	6,760	396	14,518	16%	32%
2007	76	6,198	362	15,593	17%	28%
2008	96	8,329	267	11,898	26%	41%
2009	55	6,079	172	6,475	24%	48%

Given the scale of NYCDEP's participation in the market for land, it would be reasonable to expect NYCDEP to have some impact on prices – and in particular, to expect that LAP acquisitions, by increasing demand for watershed land, would cause land prices to rise. However, the data on NYCDEP's impact on prices are ambiguous.

To trace changes in the price of land in watershed towns, data from ORPS on arms-length sales of vacant land of more than ten acres (excluding purchases by NYCDEP under LAP) were analyzed for each of the nine groups of West-of-Hudson watershed towns defined earlier in this chapter and shown on Figure 3-4 The same data were also analyzed for six groups of towns that are either wholly outside the watershed (or that in several cases have less than four percent of their total area within the watershed). The six town groups are:

- Southern Columbia County (Ancram, Copake, Gallatin and Tagkhanic)
- Three towns in Schoharie County (Blenheim, Broome and Summit)
- Three Greene County towns (Cairo, Durham and Greeneville)
- Four Ulster County towns (Marbletown, Rochester, Saugerties and Ulster)
- Two towns in Sullivan County (Fallsburg and Liberty)
- Southern Otsego County(Maryland, Milford, Otego and Unadilla)

These town groups are shown below in Figure 3-10.

Figure 3-10: Map of town groups outside the watershed

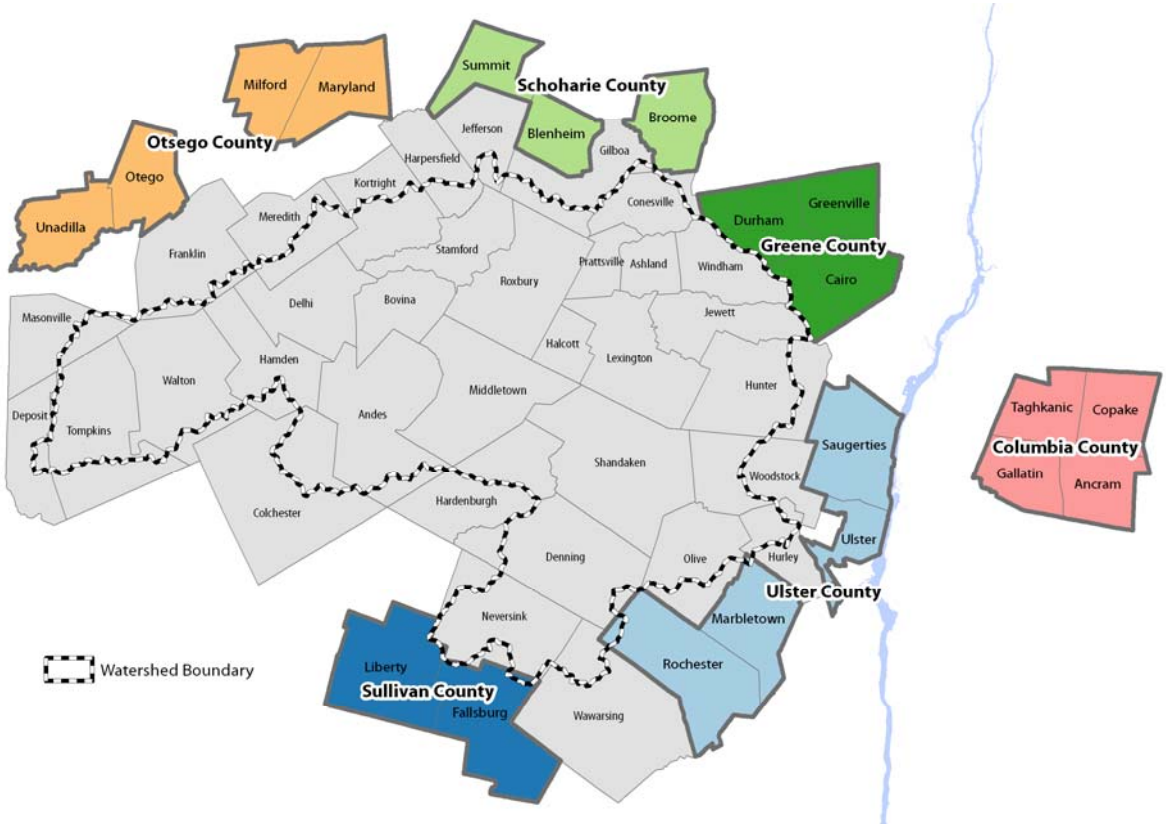


Table 3-40 shows, the median sale price per acre on arms-length sales of vacant parcels of more than ten acres rose substantially between 2001 and 2009 in most of the nine watershed town groups. When price trends in these groups are, however, compared with trends in the six non-watershed town groups, it is clear that sharp increases in land prices were common outside as well as inside the watershed; and in some cases prices rose more rapidly outside than inside the watershed.

- The median sale price in Blenheim, Broome and Summit, for example, rose faster than the median for watershed towns in Schoharie County.
- The increase in the median price for Cairo, Durham and Greeneville was greater than the increase in the median for Greene County's western mountaintop towns, but less than the increase in the eastern mountaintop towns.
- The median price per acre rose faster in southern Otsego County than in northeastern and western Delaware County – but not as fast as the median price increased in southeastern Delaware County. .

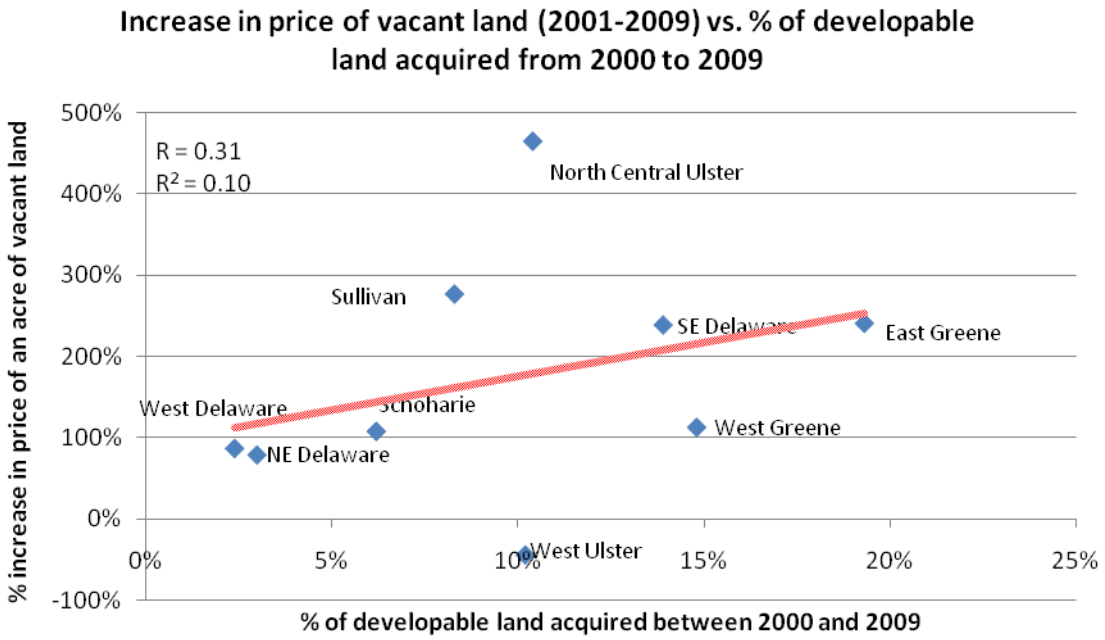
Table 3-40: Median sales price per acre on arms-length sales of vacant parcels of more than ten acres, by town group[1]

Town Groups	Median price per acre 2001	2009	% Change, 2001-2009
Inside watershed			
Northeastern Delaware County	$1,304	$2,330	79%
Southeastern Delaware County	$1,441	$4,884	239%
Western Delaware County	$1,036	$1,942	87%
Greene County Mountaintop East	$2,094	$7,143	241%
Greene County Mountaintop West	$2,044	$4,345	113%
Schoharie County	$1,203	$2,500	108%
Sullivan County	$2,110	$7,963	277%
North Central Ulster County	$1,196	$6,765	466%
Western Ulster County	$7,437	$4,186	-44%
Outside watershed			
Columbia County	$3,452	$9,615	179%
Greene County	$1,168	$3,835	228%
Otsego County	$664	$1,664	150%
Schoharie County	$783	$1,703	117%
Sullivan County	$1,250	$6,519	422%
Ulster County	$2,642	$6,519	147%

Changes in land prices in watershed towns can be analyzed not only in relation to price changes outside the watershed, but also in terms of how the rate of price escalation varies within the watershed. If LAP purchases were a contributing factor in the rise in land prices, it would be reasonable to expect prices to rise faster in areas where NYCDEP has acquired the most land. Figure 3-11 shows the percentage increase in median price per acre in each of the nine watershed town groups, along with the percentage of developable land in each town group that had been acquired by NYCDEP through mid-2009.

[1] The price trend for some groups – including Western Ulster County – is based on a limited number of transactions involving vacant land of more than 10 acres.

Figure 3-11: Percent increase in the median price of vacant land (2001-09) compared with the percent of developable land acquired from 2000 to 2009, by town group



The graph suggests that between 2001 and 2009 there was a weak correlation of 0.31 (r-squared = 0.10) between LAP acquisitions and land price increases.

Several conclusions might be drawn from the data presented above.

- The price of land rose sharply in most parts of the West-of-Hudson watershed region between 2001 and 2009 – but the data do not suggest that land prices rose more rapidly in watershed towns than in nearby non-watershed towns;
- Within the West-of-Hudson watershed, there is only a weak correlation between the rate at which the price of vacant land increased and the extent of acquisitions under LAP;
- When prices are high, some people will be more inclined to respond positively to an offer to buy their land.
- As the market has cooled, acquisitions by NYCDEP under LAP have come to represent a significantly larger part of the market for large tracts of undeveloped land. The Program's impact on the market may be greater when private demand is weak and prices are falling than it was during the boom.

Through the mid-2000's, LAP may thus have been a contributing factor in the escalation of land prices in some parts of the watershed – although its contribution to the rise in land prices was limited by NYCDEP's policy, pursuant to the 1997 MOA, of paying only "fair market value" as determined

by independent appraisals. But it was clearly not the only – or even the leading – factor in this pattern of price increases.

During the past few years, however – as private demand for watershed land has declined and LAP has come to account for a larger percentage of all land sales – the program's impact on land prices may have changed. Just as they have outside the watershed, median prices of vacant land in watershed towns have declined since peaking in 2006-2007. However – because of the scale of its purchases and its willingness to pay fair market value for eligible watershed land – LAP may now have the effect of keeping the price of undeveloped land from falling as rapidly as it might have fallen in the absence of LAP. The impact of this effect on future socioeconomic conditions within the watershed will be discussed below, following the discussion of LAP's impact on the prices and affordability of housing.

While LAP may have some impact on the price of larger tracts of land, it does not appear to have had a significant impact on the price of smaller parcels (those of less than 10 acres). Purchases of small parcels account for less than 1 percent of the land acquired in the west-of-Hudson under LAP; and purchases by NYCDEP account for less than 1 percent of all sales of small parcels.

Impact on housing prices and affordability

Increases in the cost of housing, as described in the section on existing conditions, have been a matter of continuing concern in many parts of the watershed. It does not appear, however, that the acquisition of watershed land under LAP has been a significant contributing factor in the rise in home prices. Price increases such as those seen in West-of-Hudson watershed towns have been seen elsewhere as well. Table 3-41 shows increases in home prices in watershed and non-watershed towns between 2001 and 2009.

While none of these out-of-watershed areas matched the percentage increase recorded in the western Greene County mountaintop towns or in the watershed towns of Schoharie County, they are comparable to or greater than those in other parts of the watershed. For example:

- The increase in median home prices in southeastern Columbia County (Ancram, Copake, Gallatin and Tagkhanic) between 2001 and 2009, matched the increase during the same period in the eastern mountaintop towns of Greene County – and median sales prices in the two areas in were similar.
- Prices increases in southern Otsego County towns (Maryland, Milford, Otego and Unadilla) were roughly comparable to those in Delaware County.
- Prices rose faster in Liberty and Fallsburg than in Neversink.

Table 3-41: Change in median sales price of single-family homes inside and outside the watershed, 2001-2009

Town Groups	Median sale price 2001	2009	% Change, 2001-2009
Inside watershed			
Schoharie County	$46,500	$133,000	186%
Greene County Mountaintop West	$53,000	$146,000	175%
Western Ulster County	$88,500	$184,000	108%
Western Delaware County	$52,000	$100,000	92%
Greene County Mountaintop East	$110,000	$210,500	91%
Southeastern Delaware County	$75,000	$130,000	73%
Northeastern Delaware County	$62,500	$106,000	70%
North Central Ulster County	$135,000	$199,000	47%
Sullivan County	$107,500	$136,000	27%
Outside watershed			
Ulster County	$106,000	$217,250	105%
Columbia County	$116,500	$222,500	91%
Sullivan County	$72,000	$133,500	85%
Schoharie County	$62,900	$114,000	81%
Greene County	$87,500	$152,375	74%
Otsego County	$60,000	$100,000	67%

There appears to be little correlation between home price trends in various market areas and the extent of acquisitions under LAP (a correlation of 0.09, r-squared = 0.01). As shown in Figure 3-12 and Figure 3-13, there appears to be a much stronger correlation between home price increases and the percentage of second homes in an area (a correlation of 0.68, r-squared = 0.46).

Figure 3-12: Increase in price of single-family homes (2001-2009) vs. share of seasonal recreational units (2000)

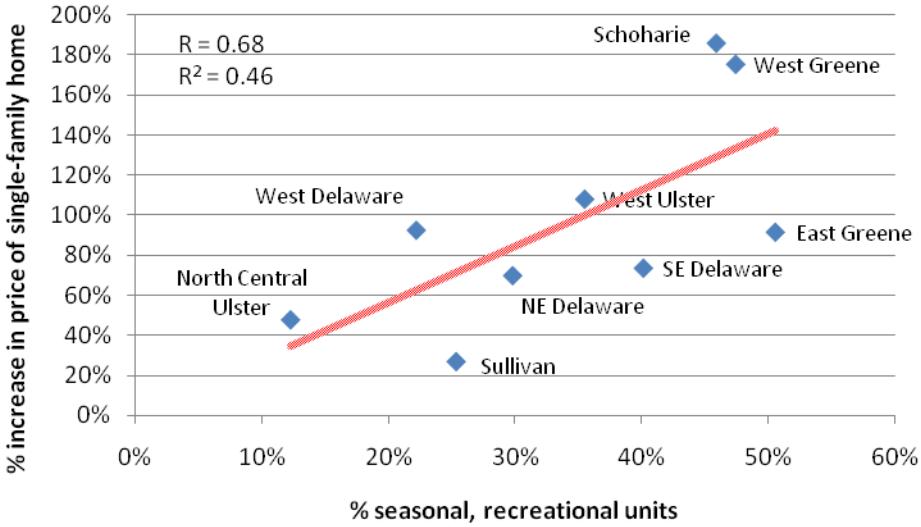
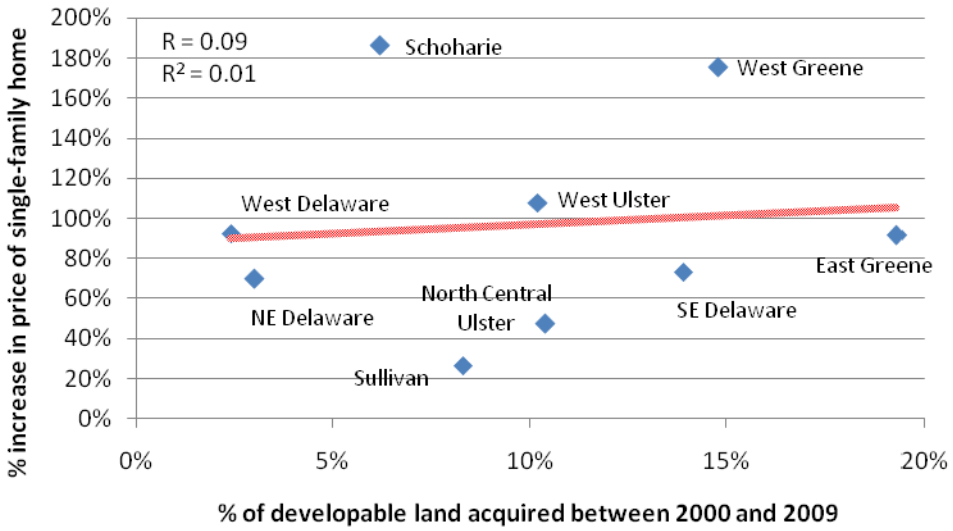


Figure 3-13: Increase in the price of single-family homes vs. LAP acquisitions as a %'ge of developable land



For lower-income households in the West-of-Hudson watershed, affordability is generally not a question of homeownership; instead it is in part a matter of the availability and affordability of rental housing. The existing supply of affordable rental housing in watershed towns (including housing for older residents) is concentrated in or in the immediate vicinity of hamlets and village centers; and it is highly likely that any future development of affordable rental housing will similarly occur in these areas. To the extent that existing hamlet designations – and the proposed expansion of designated hamlet areas, described below – preclude any future LAP acquisitions in these areas, they ensure that LAP will not in the future have significant adverse impact on the availability or cost of affordable rental housing.

The future impact of LAP on prices, affordability, and socioeconomic conditions

Future real estate market conditions are too uncertain to project with any specificity either the future course of real estate prices in the West-of-Hudson watershed through 2027, or how further acquisitions of watershed land by NYCDEP will affect those prices. Several general points are nevertheless worth noting.

As long as private demand for larger tracts of undeveloped land remains weak, LAP may play a stabilizing role in this segment of the market – maintaining prices at levels somewhat higher than sellers would be able to obtain in absence of the program. Even more significant than LAP's impact on prices may be its impact on the liquidity of the market for undeveloped land. LAP in effect assures owners of NYCDEP-sought properties that even in a weak market they may have a willing buyer at fair market value (as fair market value is defined by NYCDEP, based on independent appraisals).

To the extent that LAP helps to maintain the price of undeveloped land, and maintains the liquidity of the market, it may have several effects on socioeconomic conditions in the watershed:

- LAP may increase slightly the overall cost of new development in the watershed, by increasing marginally the prices that developers pay for larger tracts of land. It does not appear, however – given the declines in median price per acre in the past few years – that LAP's impact on land prices is great enough to have a significant impact on the financial feasibility of new development;

- As noted below in the discussion of the program's impact on agriculture, LAP may make it easier and more attractive for owners of agricultural land to sell. LAP may thus accelerate somewhat the shift of watershed land out of agricultural use. But in the long run, as discussed in detail under agriculture below, it is unlikely to have any real impact on the level of agricultural activity or agricultural land use in the region. Owners who are choosing to stop farming their land – and who are then in some cases choosing to sell all or part of it – are generally responding to a much broader range of economic and other factors, not simply to opportunity that the Land Acquisition Program represents;

- Through the fall of 2009, NYCDEP had paid a total of $53.1 million to landowners with primary addresses in the West-of-Hudson watershed from whom NYCDEP had purchased fee interests or conservation easements in the West-of-Hudson watershed. These payments to resident land-owners represented 34 percent of all payments to owners of West-of-Hudson watershed land under the Land Acquisition Program.

  Pursuant to the MOA, NYCDEP adheres to a policy of paying "fair market value" for land acquired under LAP. Consequently, it can be argued that NYCDEP's purchases of fee interests in themselves provide no real net benefit to owners, since they presumably would have been able to sell to another buyer at a similar price. In periods when demand for watershed land weakens, however, LAP may as noted above benefit prospective sellers of attractive, eligible land by in effect guaranteeing the liquidity of the market. Especially for owners who need – for whatever reason – to sell their property, NYCDEP's role as a "willing buyer" can be of real value – even if a sale to NYCDEP brings no more than fair market value; and

- Payments by NYCDEP and WAC for conservation and agricultural easements also provide a benefit to some West-of Hudson landowners. In the absence of the NYCDEP and WAC easement programs, these owners probably would not have the opportunity to sell this type of limited interest, while retaining fee ownership, and enjoying continued (although restricted) use of their land.

While NYCDEP's purchases of land thus appear to have *some* impact on land prices – especially as it continues to buy land at a time when demand from other potential buyers has declined – the analysis of home prices shows no significant impact of NYCDEP's land purchases on the price of single-family homes. Other factors – including broader trends in the housing market, and the popularity of some areas within the watershed as second-home or retirement locations – appear to have had a greater impact on home prices.

Moreover, because LAP is restricted from acquiring land in designated hamlet areas – and because designated hamlet areas may be substantially expanded – LAP is unlikely to have any adverse impact on the future development or cost of affordable rental housing.

It is difficult to project real estate market conditions in the West-of-Hudson region through 2022; projecting through 2027 is correspondingly more uncertain. But using the best available information and reasonable projections, there is little evidence to suggest that the Extended LAP's impact on real estate prices would substantially affect socioeconomic conditions in the watershed region through 2027.

Impacts on Industries and Businesses

As explained above in the section on methodology, the assessment of LAP's potential impact on industries in the watershed region focuses primarily on the program's direct impact on selected land-based industries.

Agriculture

Through July 2009, NYCDEP reports that it had secured in fee simple at least 45 parcels of watershed land at least some portion of which, in the recent past prior to acquisition by NYCDEP, had been actively used as farmland. These 45 parcels together totaled 5,497 acres, of which actively-used agricultural land totaled 1,135 acres. A summary of these acquisitions by town appears in Table 3-42.

NYCDEP's information on how lands were used in the years preceding acquisition by LAP is incomplete. It is thus possible that the total acreage in active farm use prior to acquisition was somewhat greater than the 1,135 acres cited above. In order to provide some margin for error (and to be conservative), it is assumed for purposes of this analysis that the land in which NYCDEP had acquired fee interest in the West-of-Hudson watershed as of July 2009 includes approximately 1,500 acres that in the recent past prior to acquisition had been actively used for some form of agricultural production.

Acquisition of farmland by NYCDEP does not necessarily mean an end to agricultural production. NYCDEP currently has 23 five-year permits in place allowing farm operators in the watershed to use NYCDEP-owned land for agricultural production. These 23 permits cover a total of 661 acres – of which 21 permits, covering 653 acres, are on properties in the West-of-Hudson region. Specific agricultural uses under these permits include production of hay, alfalfa, corn, grapes, blueberries and other crops, and use as pasture land. Table 3-43 lists the number of permits and total acreage by county and town. As the table shows, about 80 percent of all land on which NYCDEP has issued farm permits is located in Delaware County.[1]

Some local officials have noted that the benefits farm operators can realize from use of NYCDEP land under a five-year permit are limited; and in particular, that such land is not an asset against which operators can borrow. While this is correct, it should also be noted that farming leased land is a common practice in rural communities, both in New York and elsewhere.

[1] Activities conducted under NYCDEP permits do not necessarily have an economic impact equal to that of the agricultural activities for which the land was previously used. Land that once supported a herd of dairy cattle, for example, might now be used only for production of hay. But this is not necessarily a result of acquisition by NYCDEP – it is more a result of economic conditions. Dairy farming may have a much greater economic impact than cutting hay – but it may not be financially sustainable.

Table 3-42: NYCDEP acquisitions of agricultural land in fee simple through 2009

County/Town	Total acres acquired	Active agricultural acres acquired
Schoharie County		
Conesville	434	70
Greene County		
Ashland	255	18
Lexington	336	13
Prattsville	993	146
Halcott	448	47
Windham	45	29
Jewett	40	21
SUBTOTAL	**2,117**	**274**
Delaware County		
Bovina	35	4
Delhi	566	136
Franklin	57	23
Hamden	414	118
Harpersfield	33	8
Kortright	284	84
Masonville	156	46
Meredith	257	56
Middletown	274	23
Roxbury	638	137
Stamford	232	156
SUBTOTAL	**2,946**	**791**
TOTAL	**5,497**	**1,135**

Table 3-43: Agricultural permits and acres, by town

County/Town	Permits	Acres
Greene County		
Ashland	1	28
Prattsville	1	67
Windham	1	27
SUBTOTAL	**3**	**122**
Delaware County		
Delhi	1	50
Franklin	1	74
Hamden	1	15
Harpersfield	1	7
Kortright	1	24
Masonville	1	58
Middletown	3	36
Roxbury	6	124
Stamford	3	143
SUBTOTAL	**18**	**531**
Westchester County		
Yorktown	2	8
TOTAL	**23**	**661**

Based on the data presented above, it is estimated that under LAP, NYCDEP has acquired fee title to approximately 850 acres of land in the West-of-Hudson watershed that at some time in the recent past prior to acquisition had been actively-used farm land, but is not now being used for agricultural production.

In no case does the cessation of agricultural activity appear to be a direct *result* of NYCDEP's purchase of farmland. Nevertheless, in order to explore further the potential impact of NYCDEP's

acquisitions of farmland in fee simple, what the impact would have been if acquisitions of 850 acres in fee simple by NYCDEP had in fact resulted in the cessation of farming was also considered.

Using data from the U.S. Census of Agriculture and the Commerce Department's Bureau of Economic Analysis, it was then estimated for each county an average ratio of farm employment (both farm proprietors and wage-and-salary workers) to acres of active farmland. In 2007, the West-of-Hudson watershed counties, as shown below in Table 3-44, averaged 0.0133 jobs per acre of farm land – or about 1 farm job for every 75 acres of farm land – and $242.65 in farm income per acre.

Table 3-44: Agricultural land, employment, income by county, 2007

	Delaware	Greene	Schoharie	Sullivan	Ulster	WOH
Farmland (acres)	165,572	44,328	95,490	50,443	75,205	431,038
Farm employment	1,860	560	1,270	756	1,284	5,730
farm income ($000s)	$ 39,175	$ 11,622	$ 17,882	$ 20,261	$ 15,651	$ 104,591
Jobs per acre	0.01	0.01	0.01	0.01	0.02	0.01
Income per acre	$ 236.60	$ 262.18	$ 187.27	$ 401.66	$ 208.11	$ 242.65

Applying these ratios to our estimate of 850 acres of formerly-agricultural land acquired by NYCDEP that is not now being actively used, it is estimated that acquisition of farm land by NYCDEP through July 2009 – if it had in fact caused the cessation of agricultural use – would have resulted in the loss of 11 jobs in agriculture, and approximately $206,250 in farm income.

As noted above, no cases were identified in which the cessation of agricultural use was a direct result of acquisition by NYCDEP. But even if that had been the case, the preceding calculation suggests that its impact on employment and income in the watershed region would have been quite limited.

Judging fully the direct impact of the Land Acquisition Program on agriculture requires taking into account not only the impact of fee acquisitions, but also the acquisition of agricultural easements through NYCDEP's partnership with the Watershed Agricultural Council. As shown in Table 3-46, as of July 2009 WAC had acquired 90 agricultural easements covering 16,954 acres in the West-of-Hudson watershed.

It is difficult to assess the impact of these easements on the level of agricultural activity in the region. Nationwide studies suggest that agricultural easements have been an effective tool for keeping land in agricultural use and protecting open space.[1] Data on the results of the WAC program to date seem to be consistent with this finding; of nearly 17,000 acres on which WAC has acquired easements since 2001, all but 579 acres – 3.4 percent of the total acreage under easement – was still being farmed as of December 2009. However, as shown below in Table 3-45, the attrition rate is higher for farms on which easements were acquired in the program's earlier years.

[1] Alvin Sokolow, *A National View of Agricultural Easement Programs: Measuring Success in Protecting Farmland*, American Farmland Trust, December 2006.

Table 3-45: Percent of acres with WAC easements still in active agricultural use by year of acquisition

Year of Acquisition	% Active Acres
2001	75%
2002	98%
2003	70%
2004	100%
2005	93%
2006	100%
2007	100%
2008	100%
2009	99%
Total	**96%**

What impact agricultural easement programs will have in the long run on the economic viability of farming and the overall health of local agricultural economies remains at this point an open question, both at the national level and in the watershed region. But in the near term, the WAC program appears to be achieving the goal of keeping land in agricultural use.

It is not possible at this point to say with any certainty how much of the roughly 17,000 acres on which WAC has acquired easements represents land that in the absence of a WAC easement would no longer be in agricultural use. But even if the percentage of land under easement that meets this criterion is relatively small, it would still represent a positive contribution to the preservation of agricultural uses in the watershed.

Table 3-46: West-of-Hudson WAC easements, by town

County/Town	WAC Acres
Delaware County	
Andes	1,212
Bovina	1,436
Delhi	862
Hamden	901
Kortright	1,663
Meredith	553
Middletown	733
Roxbury	616
Stamford	4,849
Tompkins	84
Walton	1,267
SUBTOTAL	**14,176**
Greene County	
Ashland	178
Halcott	389
Jewett	105
Windham	226
SUBTOTAL	**898**
Schoharie County	
Gilboa	143
Jefferson	275
SUBTOTAL	**418**
Sullivan County	
Neversink	1,462
TOTAL	**16,954**

The purposes of the WAC agricultural easement program are broadly consistent with those of New York State's agricultural district program. Article 25AA of the Agriculture and Markets Law authorizes creation of agricultural districts, the purpose of which is to encourage continued use of farmland for agricultural production, by providing landowners with real property tax incentives and protection against a variety of actions that might adversely affect farm use; such actions could include local laws or rules restricting agricultural use, public-agency land acquisitions or capital projects that might adversely affect farming, and private nuisance suits. Districts are created through the initiative of local land-owners, subject to initial county review, certification by the State Department of Agriculture and Markets, and final approval by the county; and are subject to periodic recertification by the State. As of 2007, there were 289 agricultural districts in 53 New York State counties, covering about 8.5 million acres and $70 million annually in property tax abatements.

To the extent that it helps keep land in agricultural use, the WAC easement program has no adverse impact on the agricultural district program. Acquisition of land by NYCDEP in fee simple could theoretically have an adverse impact on the viability of agricultural districts in the watershed, if it were to result in the cessation of active farm use of significant amounts of land within such districts; and NYCDEP is required to notify the State Department of Agriculture and Markets whenever it is purchasing land within an agricultural district. But as noted above, there are relatively few cases in which NYCDEP has acquired in fee simple land that had been in active agricultural use prior to acquisition. Moreover, to the extent that they forestall conversion of farm land to non-farm uses, acquisitions by NYCDEP in fee simple can in fact support the goals of the State program. It thus appears unlikely that further acquisitions by NYCDEP under LAP would have any adverse impact on the viability of agricultural districts.

Based on the preceding analysis, it is estimated that – even in the worst case – the Land Acquisition Program is likely to have little or no direct impact on agricultural production in the West-of-Hudson watershed region.

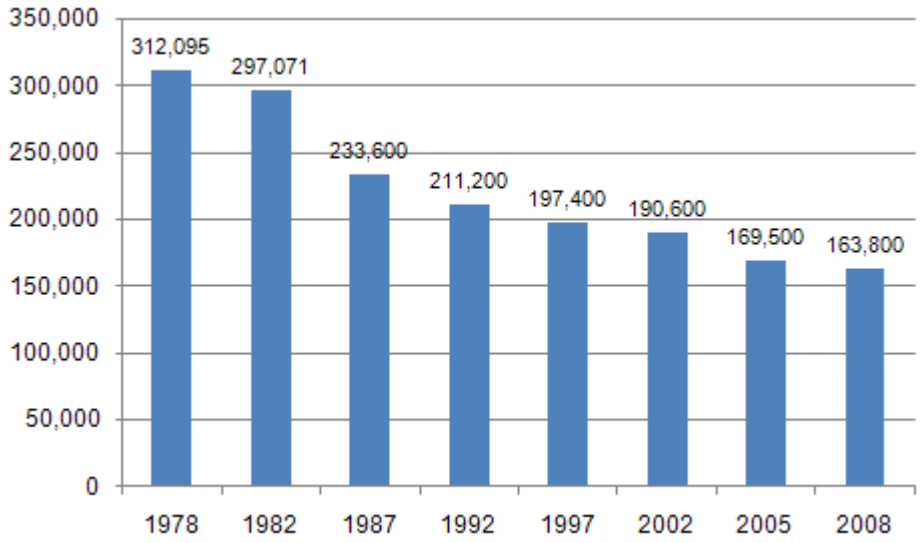
Agriculture in Delaware County

Of the counties with large portions of their land in the watershed, agriculture plays a greater role in the economic life of Delaware County. Below we therefore explore in some greater detail LAP's possible impact on agriculture in Delaware County.

Several important factors have shaped the context within which NYCDEP has been acquiring land in Delaware County. Perhaps the most important of these is a long-term (and continuing) decline in the amount of land within the county that is used for agricultural purposes. This is by no means a recent trend; total farm acreage in Delaware County, according to the USDA, has declined by about 75 percent since 1940.[1] As Figure 3-14 shows, between 1978 and 2008 total farmland acreage dropped by 47.5 percent – from 312,095 to 163,800.

[1] New York Agricultural Statistics Service, "Delaware County Farm Statistics," April 2009

Figure 3-14: Farmland in Delaware County (acres), 1978-2008



Between 1997 and 2008, total farm acreage in Delaware County fell by 33,600 acres – a decline of 17 percent. The decline in farm acreage in this period was actually somewhat slower during this period than in the preceding ten years.

As Table 3-42 shows, the total volume of former farmland acquired by NYCDEP in Delaware County between 1997 and 2009 that had been actively farmed at some point preceding acquisition was 791 acres; and as noted above, about 530 acres of the land acquired in fee simple was in October 2009 once again in active agricultural use under permits issued by NYCDEP.

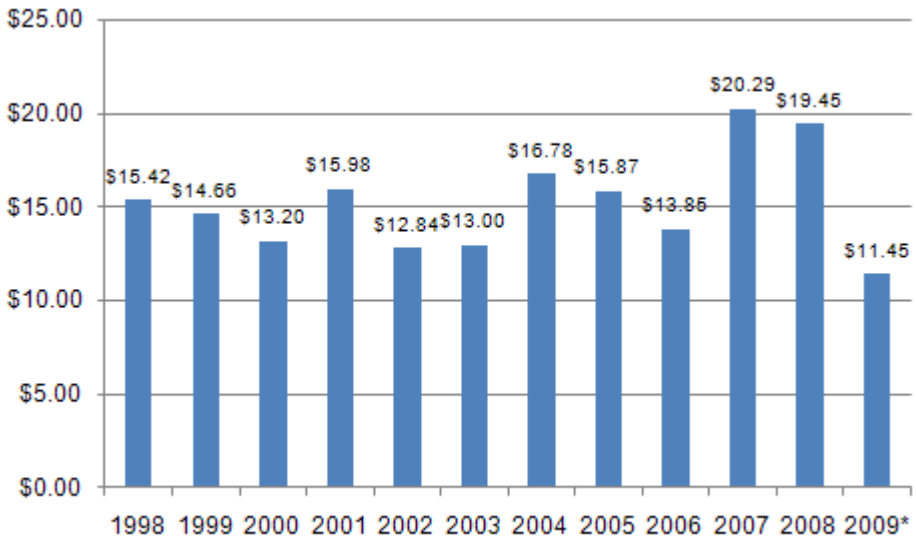
It should also be noted that as of 2007, dairy farming accounted for 62 percent of all agricultural sales in the county. Like the broader agricultural sector, dairy farming in Delaware County has been declining for some time; between 1978 and 2008, milk production in the county declined by 55 percent.

The past decade has been a particularly difficult time for dairy farmers, due to the volatility of both milk prices and the cost of inputs such as feed and fuel. After peaking at more than $21 per hundred pounds early in 2008, the average price paid to farmers for milk and milk products fell below $11.50 in the spring of 2009.[1] Since mid 2009, prices have rebounded somewhat, reaching $16.00 again in the spring of 2010; but even at this level it is still difficult for many farmers to make ends meet. According to USDA estimates, production costs for New York State dairy farmers in 2009 averaged $25.27 per hundred pounds. Annual average milk prices paid to farmers in New York State are shown in Figure 3-15.

Given the volatility of – and the difficulty of making money in – dairy farming, it is not surprising that a substantial number of owners are choosing instead to sell their land, whether to NYCDEP or to other buyers.

[1] New York State Department of Agriculture and Markets, *New York State Dairy Statistics, 2008*, Table 22.

Figure 3-15: Milk prices paid to farmers in New York State (annual average)



**First half of 2009*

The Watershed Agricultural Council has acquired agricultural easements on a total of 14,176 acres in Delaware County – about 84 percent of the total acreage in the West-of-Hudson region on which WAC has to date acquired easements, and about 9 percent of the county's farm land. Since the beginning of the program, WAC has paid more than $16.1 million to 68 owners of farms in Delaware County for these easements (an average of more than $230,000 per transaction).

It is difficult to measure directly the impact of WAC easements on the overall health of the county's agricultural sector. Nevertheless, it seems reasonable to assume that for many of the participating farmer-owners, proceeds from the sale of easements provide at least a short-term improvement to their financial position; and that for some, funding from the sale of easements provides resources that help them continue farming their land.

As noted above in our discussion of LAP's impact on the price of land, LAP may act to stabilize the price of large tracts of watershed land. To the extent that this keeps the price of land somewhat higher than it might otherwise be – and perhaps even more important, to the extent that LAP ensures that owners can find a "willing buyer" at fair market value – LAP may in fact make it easier and more attractive for some farmers in Delaware County to sell their land than it would be in the program's absence.

The fact that LAP provides an outlet for owners who want to sell does not, however, mean that the program is somehow *causing* the decline of agriculture in Delaware County, or elsewhere in the region. The program expands the options available to owners for whom agricultural uses no longer makes sense economically, or who for other reasons choose not to continue farming.

An overall assessment of LAP's impact on agriculture in Delaware County needs to take into account a number of factors.

- The decline in farmland in Delaware County long preceded LAP;
- As shown above in the discussion of existing conditions the total volume of farmland has been declining in non-watershed counties as well;
- NYCDEP's acquisitions of previously-active farmland in fee simple involve only about 2.4 percent of the total volume of land removed from agricultural use since 1997; and
- Farm land acquired by NYCDEP in fee simple can be returned to active agricultural use through the issuance of permits.

In light of these factors, LAP does not appear to have in any significant way contributed to the decline of agriculture in Delaware County. Nor does it appear that Delaware County's agricultural economy would be significantly larger or more prosperous than it is today if NYCDEP had not for the past twelve years been acquiring land and easements in the watershed.

Mining

As of October 2009, NYCDEP had acquired five parcels of watershed land that had previously included bluestone mining operations, which had been terminated prior to sale. While acquisition by NYCDEP does not appear to have directly caused the cessation of these operations, we can (as we did with agricultural land) analyze what the impact would have been if it had been attributable to LAP. Reflecting the existing mix of solo operators and somewhat larger multi-employee businesses, we assume for purposes of this analysis that these operations averaged 2.8 employees each, for a total of 14 jobs lost when mining operations were suspended, and a loss of approximately $592,000 in annual earnings.

Even if cessation of these five operations were attributable to LAP, however, it does not necessarily translate into a loss for the region as a whole. When demand is at least stable (or increasing), production might be increased at other locations within the region, offsetting the loss of production on lands acquired by NYCDEP. We cannot say with any certainty whether this shift in fact occurred in specific cases – but it is worth noting that between 2000 and 2006, wage-and-salary employment in mining increased in the watershed counties by 47 percent. Overall, mining in the region does not appear to have been adversely affected by any loss of specific sites associated with acquisition of land by NYCDEP.

Over time, the level of bluestone production in the region is driven primarily by demand. The supply of stone, and the availability of mining sites, does not appear to be a significant constraint. According to a former president of the Bluestone Association, there is no danger of the region running out of bluestone.[1]

As of December 2009, NYCDEP had acquired only one former sand and gravel site in the West-of-Hudson region. The five-acre site was part of a 31-acre parcel sold to NYCDEP by the Town of Andes; and it had been largely exhausted prior to its acquisition by NYCDEP. We thus conclude that NYCDEP's acquisitions of watershed land have had no substantial impact on this segment of the mining industry.

[1] Oneonta Daily Star, April 28, 2008.

Any mining or logging (discussed below) activity displaced from land acquired by NYCDEP is more likely to relocate to other sites than to disappear altogether; but it is possible that some businesses and some jobs could be lost in the process. Moreover, not all jobs are equal – the earnings of those employed in mining are significantly higher, and in forestry somewhat higher, than the wages paid in retail, restaurant, lodging and other jobs that might be associated with the projected increase in recreational use of land acquired by NYCDEP. In either case, however, the numbers of jobs that could potentially be gained or lost are small.

Moreover, any potential adverse impacts on the region's bluestone industry could in the future be alleviated by NYCDEP's willingness to permit extraction of bluestone, under appropriate conditions, on lands acquired by NYCDEP in fee simple or on which it holds a conservation easement.[1]

Natural Gas Drilling

NYSDEC is currently completing a supplemental generic environmental impact statement for natural gas drilling using high-volume horizontal drilling in the Marcellus Shale formation. The Marcellus Shale underlies the entire West of Hudson Watershed; in April 2010, however NYSDEC announced that "that due to the unique issues related to the protection of New York City and Syracuse drinking water supplies, these watersheds will be excluded from the pending generic environmental review process for natural gas drilling using high-volume horizontal drilling in the Marcellus shale formation." Applications to drill in the New York City watersheds will require "a case-by-case environmental review process" "to address continuation of the FAD[2]."

Currently there are no pending applications for horizontal drilling located in the New York City Watershed. Chesapeake Energy, the largest lease holder in the Marcellus Shale, made a commitment to not drill in the NYC watershed. Any drilling in the watershed would go through significant reviews and must demonstrate that it would pose no threat to water quality and the Filtration Avoidance determination. NYC would not pursue natural gas development on the lands it owns, or allow landowners on lands we hold in easement to develop gas, except to the extent required by state law through "compulsory integration."

Accordingly, at this time, the extent and location of natural gas drilling in the watershed, and the associated economic impacts, are not reasonably foreseeable. Based on the remaining supply of land and the conservative nature of the analysis conducted in this EIS, it is not expected that the Extended LAP would itself constrain natural gas drilling in the West-of-Hudson watershed, although not enough is known at this time. Any natural gas drilling proposed would be subject to further environmental review.

Forestry and logging

As noted in the section on existing conditions, about 81 percent of the land area of the West-of-Hudson watershed – a total of about 823,500 acres – is covered by forest. The land acquired by NYCDEP in fee simple includes approximately 47,885 acres of forest land – about 5.8 percent of all

[1] See, for example, New York City DEP, *A Landowners Guide for Commercial Bluestone Mining Practices on a DEP Conservation Easement*, January 2010.

[2] NYSDEC's April 23, 2010 press release, http://www.dec.ny.gov/press/64699.html

forest land in the watershed. NYCDEP conservation easements and WAC agricultural easements covered an additional 25,417 acres of forest land – about 3.1 percent of all forest land in the watershed. Beyond the boundaries of the watershed, much of the land area of the five West-of-Hudson counties is also forested – a total of 2.36 million acres of forest land purchased by NYCDEP thus accounts for about 2.0 percent of the total forested area of the five counties.

The City has also agreed to implement a Forest Conservation Easement Program ("FCE Program") in which the City would allocate up to six million dollars ($6,000,000) of funds currently committed to the LAP for acquisitions of easements on forested land. As currently envisioned, the City-funded FCE Program would be implemented in partnership with the Watershed Agricultural Council (WAC) in similar fashion to the Farm Easement Program that has been in operation by WAC and NYCDEP since 1999. The FCE Program would focus on properties that are (1) enrolled in WAC's Forest Management Program (for which a Forest Management Plan has been developed); (2) enrolled in NYSDEC's Forest Stewardship Program or Section 480A Forest Tax Law (for which a Forest Management Plan has been developed); **or** (3) important for other reasons related to water quality and/or forestry protection. The FCE Program is expected to have a beneficial impact on forestry resources in the watershed since it will increase LAP's existing focus on identifying forested lands for protection in ways that will facilitate ongoing forestry in accordance with water quality protection guidelines**.** Since such properties are otherwise likely to be protected through existing programs, most importantly NYCDEP's existing conservation easement program, the FCE Program is not expected to have a discernible additional impact on the supply of developable land in towns where it is implemented. The amounts acquired under the FCE program are subsumed within the amounts projected to be acquired under the Extended LAP for purposes of this EIS.

Because of the more episodic nature of timber harvesting, it is difficult to say definitively how much of this activity had been occurring on land acquired by NYCDEP prior to its acquisition. Some landowners may have periodically harvested timber; and there is strong anecdotal evidence suggesting that it is fairly common for owners to generate some extra income by cutting timber prior to selling or subdividing their property.[1]

As of 2009, there was relatively little timber harvesting on land owned by NYCDEP. Loggers operating under permits issued by the Department currently harvest timber from NYCDEP land. However, by far the greatest part of this activity in fiscal year 2009 occurred on land that had already been City-owned prior to 1997; only about 2 percent of the Department's timber harvesting projects took place on land acquired under LAP. This may result in part from the fact that some owners cut timber prior to selling their land.

The fact that timber is generally not being harvested on land acquired under LAP does not necessarily result in a decline in timber production throughout the region. There is currently a total of about 450,000 acres of privately-owned forest land within the watershed, and hundreds of thousands of additional acres elsewhere in the five counties, which is likely to be sufficient to sustain the level of production and employment implicit in the NYSDOL and Census numbers cited above. Even if the amount of forest land acquired under LAP doubles between 2010 and 2027, the total would still represent only a small portion of all privately-owned forest land in the five counties.

In addition to logging, NYCDEP also permits tapping of maple trees on NYCDEP-owned land. As of October 2009, NYCDEP had issued permits for tapping a total of 1,840 trees on watershed land acquired under LAP, of which 1,790 were located west of the Hudson – including 1,500 in Roxbury.

[1] Hall, Tyrrell and Sarpor, op. cit. p. 20.

According to the New York State Maple Producers Association, maple syrup yields in New York in 2009 averaged about 0.24 gallons per tap; and prices in 2008 (the last year for which data are available) averaged $42.40 per gallon. Based on these data, we estimate that maple-tapping on West-of-Hudson land acquired by NYCDEP under LAP generated about $18,215 in 2009.

While comprehensive data are not available regarding maple production on LAP-acquired land prior to acquisition, it appears that most of the taps permitted by NYCDEP as of October 2009 represent a continuation of production that preceded acquisition by NYCDEP. Acquisitions under LAP thus do not appear to have had any substantial impact on maple-tapping.

Recreation and Tourism

Under the Extended LAP, NYCDEP would continue to open up lands acquired for public access and increase recreational uses, where consistent with public safety and water quality. As noted in Chapter 6, *Open Space and Recreation*, 64 percent of the land acquired in fee simple under LAP is now open for recreational uses. NYCDEP anticipates that a similar or greater percentage of lands acquired in the Extended LAP would likely be opened up to recreation.

Preserving open space and opening up areas for recreation provide a number of socioeconomic benefits. A wide range of research over the past decade has highlighted the importance of opportunities for active outdoor recreation as one of the factors shaping young adults' decisions on where to live and work;[1] and surveys of West-of-Hudson watershed residents conducted in the context of town planning efforts highlight the value that current residents place on access to recreational opportunities – including casual walking and hiking, boating, hunting, fishing, snowmobiling and other outdoor pursuits.

Expanding opportunities for active outdoor recreation can also strengthen the economy of watershed communities by attracting both short-term visitors and second-home buyers, building on what is already one of the region's greatest strengths. Recreation and other tourism-related businesses, including hotels and restaurants, accounted for approximately 13 percent of all employment in the watershed region in 2008. Some visitors, of course, are drawn to the region by forms of recreation not available on NYCDEP-owned lands, such as downhill skiing. But others come to enjoy the broader range of recreational activities available in the region, such as those cited above – including activities that are increasingly available on NYCDEP-owned land.

In 2005, about 36,500 people who lived outside the watershed counties held permits for public recreational use of NYCDEP's watershed properties. Since about 90 percent of all NYCDEP properties open for recreational use are located west of the Hudson, it was assumed that the West-of-Hudson watershed region draws a similar percentage of non-local visitor traffic – about 32,850 people.

Using data from several national sources on spending by anglers, hunters and other participants in outdoor recreational activities, it can be estimated that these visitors spent approximately $9.0 million in the West-of-Hudson watershed region in 2005. Some of this spending, of course – especially that which might be associated with fishing and boating – is attributable to reservoirs and other properties that were owned by the City prior to the beginning of the Land Acquisition Program. Assuming that newly-opened land accounts for one-third of all local spending by non-local

[1] For example, see Richard Florida, *Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*.

recreational users of NYCDEP land, it is estimated (using the IMPLAN input-output modeling system) that in 2005 this $3.0 million in visitor spending directly supported 45 full-time-equivalent (FTE) jobs in the West-of-Hudson region – in retailing, restaurants, motels and other local businesses.

As noted in the section on existing conditions, industries that serve outdoor recreational visitors to the region are primarily low-wage industries, including, recreation, hotels, restaurants and retailing. Increased employment associated with increased visitor traffic would for the most part be concentrated in these industries.

The relatively low wages paid in new jobs associated with recreation use of lands acquired by NYCDEP could be viewed as having a negative impact if the Land Acquisition Program effectively involved a trade-off between loss of higher-paying jobs in other industries and an increase in lower-paying, visitor-based employment. But as discussed in this Chapter, there is no evidence that NYCDEP's acquisition of watershed land has in fact resulted in a loss of higher-paying jobs. While growth in recreation-based industries may not meet the region's need for higher-wage jobs, it can nevertheless be valuable – especially in those towns that are seeking to develop more diversified, year-round forms of tourism.

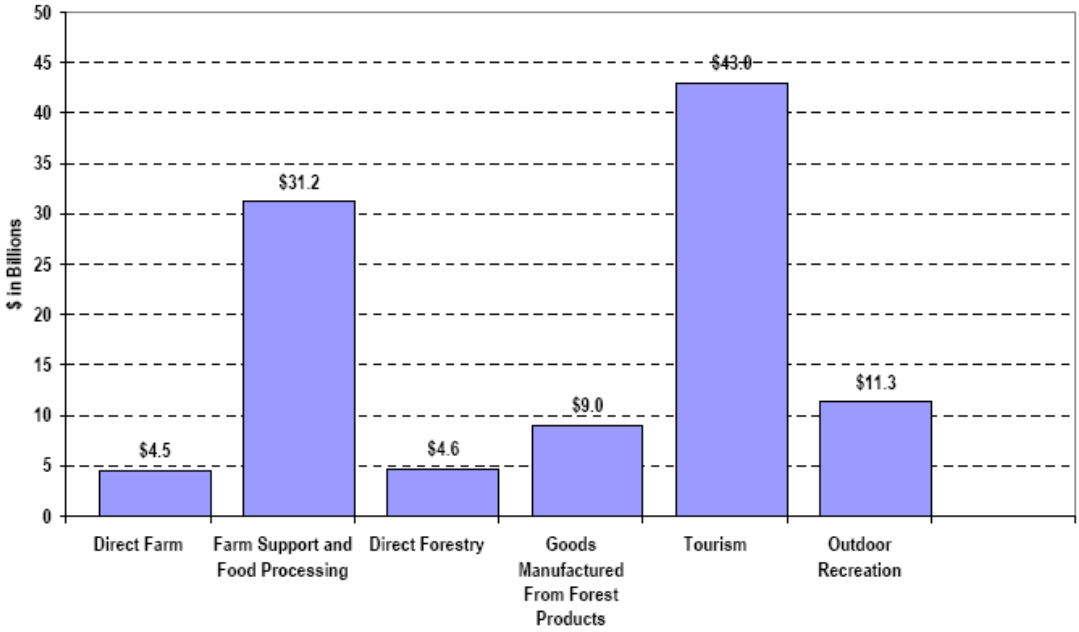
Not all of the employment associated with increased recreational use of NYCDEP-owned land should be considered "net new" employment. Just as some mining or logging jobs might be shifted from properties acquired by NYCDEP to other locations within the region, increased recreational use of NYCDEP-owned land by non-local visitors might represent (at least in part) a shift of visitor traffic from other recreational venues in the region.

A review of studies of the costs and benefits of open space protection conducted by the Office of the State Comptroller in the report, *Economic Benefits of Open Space Preservation* (March 2010) found that:

- Open space supports industries that generate billions of dollars in economic activity annually;
- Open space protection can be financially beneficial to local governments by reducing costs for public infrastructure and programs, lessening the need for property tax increases;
- Open space preservation can support regional economic growth; and
- Well-planned open space protection measures need not conflict with meeting other vital needs, such as economic development, municipal fiscal health and affordable housing.

Furthermore, the report links open space preservation with the health of particular industries (i.e., agriculture, farming, tourism and recreation). Figure 3-16 shows the contribution of these sectors to the New York State economy.

Figure 3-16: Contribution of industries reliant on open space to New York State economy



Source: Office of the State Comptroller.

On balance, the impact of visitor spending associated with increased recreational use of land acquired by NYCDEP is probably somewhere between neutral and very slightly positive. Rather than increased visitor spending, the greatest economic benefit of expanded public access to City-owned land is likely to be the value that local full- and part-time residents derive from recreational use of these properties (see Chapter 6, *Open Space and Recreation*).

Other Businesses

In addition to natural-resource-based industries, acquisition of watershed land by NYCDEP could potentially have a direct impact on other types of commercial activity as well.

The amount of watershed land currently devoted to commercial, industrial and community uses is relatively small – a total of 16,236 acres, or 1.6 percent of all watershed land. While NYCDEP is not precluded under the terms of the MOA from acquiring commercial or industrial land in the West-of-Hudson watershed, to date there have been very few cases in which NYCDEP has acquired property under LAP that was previously used commercially. In 2009, NYCDEP contracted to acquire a 328-acre property in Windham that had previously been operated as a private campground, with 45 camp sites. The Department has acquired only one other undeveloped property in the West-of-Hudson region that was formally zoned for commercial use – a 3-acre site in the Town of Olive.

The Land Acquisition Program's apparently limited direct impact on commercial and industrial uses in West-of-Hudson watershed towns in part reflects a provision of the 1997 MOA under which NYCDEP has agreed not to acquire land in hamlet areas designated by the West-of-Hudson watershed towns. Under this provision of the MOA, 23 towns designated a total of 21,311 acres in

village centers and hamlets and along commercial corridors for exclusion from the Land Acquisition Program. These towns (and the designated acreage in each) are listed below in Table 3-47. In the towns that chose to use this option, designation of hamlet areas helped to exempt existing commercial centers from acquisition of property by NYCDEP. In general, parcels in these areas tend to be smaller than those typically purchased under LAP.

The 21,310 acres of designated hamlet areas include approximately 2,719 acres of land currently used for commercial, industrial and community purposes – about 16 percent of all such land within the watershed. The designated hamlet areas also include 6,018 acres of privately-owned vacant land.

In the context of recent discussions among NYCDEP, watershed towns, regulatory agencies and other parties, NYCDEP has tentatively agreed to a proposed expansion of the areas in which NYCDEP will not solicit or purchase property, primarily in the vicinity of the areas designated as hamlets or village extensions in 1997. Seventeen towns have proposed specific additions to these areas.

As shown in Table 3-47, the proposed hamlet-area expansions would increase the land area covered by these designations to more than 48,000 acres. NYCDEP estimates that the expanded hamlet areas contain approximately 10,500 acres that NYCDEP had previously solicited, but would, at the option of towns involved, henceforth agree not to acquire. Moreover, in some cases where towns choose not to exclude LAP acquisitions from hamlets or village centers, LAP may not seek to acquire additional land because parcels in hamlets and village centers tend to be smaller and less desirable for LAP acquisition.

Table 3-47: Number of acres in existing designated hamlet areas, and proposed hamlet expansions, by town

County/Town	Existing Designated Hamlet Area, Acres	Proposed Expansion, Area Acres	Total area, acres
Delaware County			
Andes	1,052	0	1,052
Bovina	392	0	392
Delhi	2,346	2,556	4,902
Hamden	420	2,434	2,854
Harpersfield	405	1,298	1,703
Kortright	250	3,664	3,914
Masonville	n/a	150	150
Meredith	73	71	144
Middletown	1,734	298	2,032
Roxbury	957	435	1,392
Sidney	n/a	218	218
Stamford	1,331	0	1,331
Tompkins	109	0	109
Walton	1,503	2,929	4432
SUBTOTAL	**10,572**	**14,053**	**24,625**
Greene County			
Ashland	362	1,676	2,038
Halcott	69	0	69
Hunter	3,251	2,891	6,142
Jewett	652	2,014	2,666
Lexington	362	375	737
Prattsville	207	0	207
Windham	1,148	2,797	3,945
SUBTOTAL	**6,051**	**9,753**	**15,804**
Schoharie County			
Conesville	275	1,570	1,845
Ulster County			
Denning	1,107	0	1,107
Olive	547	1,333	1,880
SUBTOTAL	**1,654**	**1,333**	**2,987**
Sullivan County			
Neversink	1,197	0	1,197
Shandaken	1,561	0	1,561
SUBTOTAL	**2,758**	**0**	**2,758**
TOTAL	**21,310**	**26,709**	**48,019**

The role that expanded hamlet areas can play in protecting both existing and potential future commercial activity in watershed towns is reflected in the degree to which existing business activity and employment is concentrated within these areas. Using business and employment data obtained from Claritas[1], the locations of all establishments employing more than 20 people were mapped against the boundaries of the proposed expanded hamlet areas. These areas – representing less than 5 percent of the land area of the watershed – account for approximately 58 percent of all employment in establishments in the watershed ZIP Codes with more than 20 employees.

Overall, it appears that acquisition of watershed land through the LAP program has at most had a negligible direct impact on any other commercial activity that might previously have been conducted on the acquired properties.

Expansion of designated hamlet areas will help ensure that LAP continues to not have a negative impact on commercial activity in watershed towns by precluding any further acquisition of land by NYCDEP in the areas most suited to commercial development and the creation of new businesses. This is further supported by numerous NYCDEP programs that limit the impact of the Watershed Rules and Regulations in hamlet areas and investments in infrastructure including wastewater treatment plants, community septics, and sewers in hamlet areas.

Because it will be focused primarily on purchases of vacant land, and the undeveloped portions of larger, low-density residential parcels, LAP is unlikely to have any adverse impacts on home-based businesses, which in the region's more rural communities often account for a significant portion of all commercial activity. In fact, by allowing owners to capitalize on the value of their land by selling (or granting an easement on) some portion of it to NYCDEP, LAP could be a source of capital for such businesses.

Impacts on Local Government Revenues

Acquisition of watershed land by NYCDEP could also have a direct effect the region's economy through its impact on county, municipal and school district tax revenues. Based on the analyses conducted above for impacts on developable land and on industries and businesses, there would not be significant displacement effects due to the Extended LAP. Further, the Extended LAP is unlikely to constrain the overall level of development in watershed towns. Therefore, the potential for new local tax revenues from new development should not be reduced under the Extended LAP.

It is important to note that the Memorandum of Agreement was designed to minimize any potential adverse impact on local tax revenues that might result from acquisition of land by NYCDEP.

- NYCDEP-owned land and easements are fully taxable; therefore, acquisition of real property interests by NYCDEP does not result directly in any loss of real property tax revenues.
- Under the MOA, New York City cannot challenge local assessments of the value any property purchased through LAP for a period of 20 years following acquisition. Thus assessments on properties acquired in 1997, will not be subject to challenge until 2017; and assessments on properties acquired in 2009 will not be subject to challenge until 2029.

[1] Claritas is a for-profit provider of demographic, economic and business information.

Moreover, there will now be 30-year limitation from date of acquisition on challenging tax assessments (increased from a 20-year limitation under the negotiations).

In accord with the provisions spelled out in the MOA, NYCDEP in fiscal year 2009 paid a total of $5,963,538 million in county, town, village and school taxes on land acquired through LAP – including $2,457,411 paid to counties, towns, villages and school districts West-of-Hudson.

In order to put these payments in context, taxes paid by NYCDEP on LAP-acquired land and easements were calculated as a percentage of the total revenues of the affected jurisdictions. (Because that latest data from the State Comptroller's Office on local government revenues are for 2008, we used NYCDEP's payments in 2008 for this comparison. They are shown in Table 3-48)

Table 3-48: General and School taxes paid on LAP properties, 2008

County	General taxes paid by DEP	School taxes paid by DEP	Village taxes paid by DEP	Total taxes paid by DEP
Delaware County	$ 378,877	$ 469,448	$ 2,512	$ 850,836
Greene County	94,922	142,726	-	237,648
Schoharie County	59,521	63,254	-	122,776
Sullivan County	19,540	33,575	-	53,115
Ulster County	267,806	449,079	-	716,886
Total West-of-Hudson	**$ 820,667**	**$ 1,158,083**	**$ 2,512**	**$ 1,981,261**

As Table 3-49 and Table 3-50 show, despite the fact NYCDEP pays full taxes pursuant to State law and the MOA, real property taxes paid on LAP-acquired land represent only a small percentage of the general property tax revenues – and an even smaller percentage of the total revenues of West-of-Hudson watershed counties and towns. The same is true with the region's school districts.

Table 3-49: NYCDEP tax payments as a percent of county and town property tax and total revenue, 2008

County	Property taxes paid by DEP	Total county and town property taxes	Total county and town revenue	DEP payments as a percent of county & town property taxes	DEP payments as a percent of all county & town revenue
Delaware County	$ 378,877	$ 38,168,571	$ 126,573,708	0.99%	0.30%
Greene County	$ 94,922	$ 32,868,517	$ 115,706,674	0.29%	0.08%
Schoharie County	$ 59,521	$ 17,248,772	$ 60,512,882	0.35%	0.10%
Sullivan County	$ 19,540	$ 42,926,193	$ 188,735,604	0.05%	0.01%
Ulster County	$ 267,806	$ 91,840,914	$ 376,302,289	0.29%	0.07%
Total West-of-Hudson	**$ 820,667**	**$ 223,052,967**	**$ 867,831,157**	**0.37%**	**0.09%**

Table 3-50: NYCDEP payments as a percent of school district property tax and total revenues, 2008

County	School taxes paid by DEP	Total school district property tax revenue	Total school district revenue	DEP payments as a precent of school district property taxes	DEP payments as a percent of all school district revenue
Total WOH School Districts	$ 1,158,083	$ 155,755,028	$ 335,421,071	0.74%	0.35%

Because no development can take place on properties acquired (or on which easements are acquired) by NYCDEP, local taxing jurisdictions would no longer be able to realize the potential for increased real property tax revenues that might be associated with such development. It does not appear that acquisition of developable land by NYCDEP has created any significant constraint on the supply of land available for development. In some cases, the Land Acquisition Program may have indirectly affected the specific *location* of development within West-of-Hudson watershed towns – but it does not appear to have directly affected the overall *level* of development. Acquisition of watershed land under LAP does not appear to have had any substantial direct impact on local taxes due.

Moreover, not all types of new development have a positive impact on local finances. Research in communities in New York and elsewhere has shown that privately-owned open land consistently generates more for local government in real property tax revenues than it costs in public services. In the watershed, NYCDEP is taxed as if it were a private owner; and land owned by NYCDEP generates minimal demand for local government services. Second home development may produce a net fiscal benefit for local governments; but other single-family residential development sometimes costs more in terms of demand for schools and other services than in generates in new revenues.[1]

Of course, at a time when local government finances under severe stress – not only in the region, but throughout New York State and the U.S. – local governments and school districts – must be concerned about even very small portions of the local tax base. However, there is no evidence that acquisition of watershed land under LAP has in itself had any adverse impact on local revenues – or that it would in the future.

In addition to LAP's impact on general municipal governments and school districts, some local representatives have expressed concern about the program's potential impacts on the financial viability of fire districts. Although they represent only a small part of total local finances, these districts provide a vitally important public service. Moreover – to a far greater extent than general local governments or school districts – they are almost totally dependent on property taxes. If LAP did in fact have any adverse impact on local property tax revenues, fire districts could thus be affected disproportionately. The data cited above suggest, however, that LAP does not have any significant adverse impact on local property tax revenues.

In a few cases, the Land Acquisition Program has directly increased local tax revenues. This occurs in those cases where NYCDEP acquires in fee simple from a tax-exempt owner property that had been used for a tax-exempt purpose; or acquires a conservation easement on a property in which the tax-exempt owner retains a fee interest. In these cases, land or easements become fully taxable at the point of acquisition by NYCDEP.

[1] Farmland Information Center, "Fact Sheet: Cost of Community Services Studies," August, 2004.

Finally, it is worth noting that NYCDEP is a reliable taxpayer. Especially in periods of economic distress, when some local property-owners may find it difficult to pay their real property taxes on a timely basis, NYCDEP ownership provides a relatively stable source of revenue.

The program's direct impact on local government revenues is generally neutral. Because existing laws and provisions of the MOA governing the payment of real property taxes by the City are not expected to change, we expect that the impact of further acquisitions through 2027 will similarly be neutral.

Conclusion

Overall, the projected acquisitions in the West-of-Hudson watershed under the Extended LAP will have only a limited impact on socioeconomic conditions. Even using very conservative assumptions about the amount of land to be acquired under the Extended LAP and the pace new residential development through 2027, , for the West-of-Hudson region as a whole the supply of developable land would be more than adequate to support the projected level of development through 2027 and many years beyond. Modifications to LAP that are included in the proposed action – most notably, the proposed expansion of designated hamlet areas – would minimize any conflicts with development in the hamlet areas.

Based on an analysis of trends in land prices in the West-of-Hudson region between 2001 and 2009, LAP does not appear to have been a significant driver of the escalation in the price of vacant land that occurred in the region during the boom years. (The pattern of price increases in watershed towns is broadly consistent with increases that occurred in towns outside the watershed.) As demand for land has weakened, the Program may have had the effect of keeping vacant land prices from falling as much as they might have fallen in the Program's absence. While LAP may have a limited impact on the price of larger tracts of vacant land in outlying areas, it appears to have had no impact at all on the price of housing in the West-of-Hudson region.

LAP similarly appears to have had no significant effect on land-based industries such as farming, mining and forestry; and to have had a slightly positive impact on outdoor recreation. And because other commercial and industrial activity accounts for less than 2 percent of all land use in the West-of-Hudson region – and because it tends to be concentrated in or near the existing hamlets – no significant impact on other forms of commercial activity is expected. Finally, the Extended LAP would have no significant impact on local government or school district financing in the West-of-Hudson watershed region.

Any incremental effect of the 15 Year Greater Impact Scenario on socioeconomic conditions in West-of-Hudson watershed towns beyond the 10 Year Projection Scenario is likely to be minimal.

Based on the analysis provided in this report, the Extended LAP is not expected to result in potential significant levels of direct or indirect displacement or in other potential significant adverse socioeconomic conditions in the West-of-Hudson watershed.

EAST- OF- HUDSON

This section of Chapter 3 addresses the potential impact of additional acquisitions under the Extended LAP between 2010 and 2022 and between 2022 and 2027 on socioeconomic conditions in East-of-Hudson watershed towns.

METHODOLOGY

The approach used in assessing the program's potential impact in the East-of-Hudson region is in concept similar to that used in assessing its impact west of the Hudson. It encompasses the program's potential impact on the supply of developable land in the affected towns; on the price of land and housing; on employment and business activity; and on local government revenues.

However, the discussion of potential East-of-Hudson impacts presented below is less detailed than the preceding discussion of potential impacts in the West-of-Hudson region. This is so for several reasons.

- NYCDEP expects that through 2027, it will be acquiring additional land primarily in only four towns – East Fishkill, Kent, Carmel and Putnam Valley. If land is acquired in other towns, it would be an atypical situation, most likely involving a unique piece of property;

- Between 2010 and 2022, NYCDEP expects to acquire a total 1,517 acres in the four towns, of which we estimate that 538 will be developable; through 2027 this acreage would increase to 1,669 of which 591 acres would be developable; this – represents only a small portion (4 percent) of the four towns' total supply of developable land as of 2009; and

- By many measures – population growth, income, education, and job growth – economic conditions in the East-of-Hudson region are more favorable than those in the West-of-Hudson region; these towns may therefore be less susceptible to any possible adverse impacts from purchases of additional land by NYCDEP.

In addition, while the new WSP will cover the Croton System, due to the high cost of land and highly built environment in that system and other factors, it is not expected that NYCDEP would purchase any appreciable amount of land. Any purchase would be a unique situation, most likely a parcel that had unusual location or water quality protection attributes. It is therefore not possible to estimate future land acquisitions in the Croton System. Due to the small amount of land that would be purchased, it is not expected that the program would result in potential significant adverse socioeconomic impacts in the Croton System towns.

Below we describe existing socioeconomic conditions in the nine East-of-Hudson towns that lie partially within the East-of-Hudson watershed; describe NYCDEP's acquisitions to date in these towns; and assess the impact of future acquisitions in these towns.

EXISTING CONDITIONS

Population and age distribution

In 2008, the population of the eight East-of-Hudson towns and one city that lie partially within the Catskill-Delaware watershed totaled 244,044 – an increase of five percent since 2000. If we exclude White Plains – of which only 22 acres, or 0.3 percent of the city's area, lie within the watershed – the combined population of the eight other towns in 2008 was estimated to be 187,010 – an increase of four percent since 2000.[1] The population in the eight East-of-Hudson watershed towns from 1990 to 2008 is shown in Table 3-51.

Table 3-51: Population of eight East-of-Hudson watershed towns in the Catskill-Delaware watershed

Town	1990	2000	2008	% change 1990-2000	% change 2000-2008
East Fishkill	22,101	25,589	29,003	16%	13%
Carmel	28,816	33,006	34,843	15%	6%
Kent	13,183	14,009	14,523	6%	4%
Putnam Valley	9,094	10,686	11,456	18%	7%
Harrison	23,308	24,154	23,356	4%	-3%
Mount Pleasant	40,590	43,221	44,287	6%	2%
New Castle	16,648	17,491	17,444	5%	0%
North Castle	10,061	10,849	12,098	8%	12%
TOTAL	**163,801**	**179,005**	**187,010**	**9%**	**4%**

The population of the eight East-of-Hudson towns is generally comparable in age to that of New York State – but somewhat younger than that of the West-of-Hudson watershed towns. In 2008, the median age in the eight towns ranged from 38.3 in Mount Pleasant to 41.8 in North Castle and New Castle. The percentage of the population age 65 and older ranged from 9.5 percent in East Fishkill to 14.8 percent in Harrison.

Employment and income

In all of the East-of-Hudson towns, the percentage of all residents age 16 and over who are employed is relatively high, ranging in 2008 from 58.5 in Harrison to 69.2 percent in Carmel and Kent. Conversely, unemployment rates in these towns were relatively low in 2008, ranging from 2.7 percent in North Castle and New Castle to 5.4 percent in Putnam Valley. Unemployment rates for the towns are shown in Table 3-52.

(As a result of the recession, unemployment rates are no doubt somewhat higher now than they were in 2008. In the last quarter of 2009, for example, the unemployment rate for Putnam County averaged 6.7 percent.)

[1] Unless otherwise noted, the data in Tables 3-51 through 3-59 are presented for each town or county in its entirety, not for the portion of each town or county that lies within the Cat-Del watershed.

Table 3-52: Employment in East-of-Hudson Catskill-Delaware towns (2008)

Town	Population 16+	In Labor Force	Employed	Unemployed	% Employed, 16+	Unemployment Rate, 16+
East Fishkill	22,487	16,156	15,550	584	69.2%	3.6%
Carmel	27,774	19,419	18,528	718	66.7%	3.7%
Kent	11,655	8,382	8,064	317	69.2%	3.8%
Putnam Valley	9,145	6,374	6,026	343	65.9%	5.4%
Harrison	18,417	11,278	10,779	499	58.5%	4.4%
Mount Pleasant	34,665	21,189	20,298	890	58.6%	4.2%
New Castle	12,756	8,786	8,552	233	67.0%	2.7%
North Castle	9,112	6,146	5,977	168	65.6%	2.7%
TOTAL	**146,011**	**97,730**	**93,774**	**3,752**	**64.2%**	**3.8%**

Median household incomes in the East-of-Hudson watershed towns are significantly higher than the median for New York State ($53,376 in 2008). Table 3-53 shows the median household income for each of the eight towns in 2008, as well as inflation-adjusted income growth between 2000 and 2008.

Table 3-53: Median household income in East-of-Hudson Catskill-Delaware towns (2008 dollars)

Town	1990	2000	2008	% change 1990-2000	% change 2000-2008
East Fishkill	$ 89,560	$ 98,175	$ 99,610	9.6%	1.5%
Carmel	$ 95,422	$ 96,365	$ 97,364	1.0%	1.0%
Kent	$ 84,516	$ 91,176	$ 91,846	7.9%	0.7%
Putnam Valley	$ 87,270	$ 91,219	$ 91,997	4.5%	0.9%
Harrison	$ 93,072	$ 100,072	$ 101,632	7.5%	1.6%
Mount Pleasant	$ 95,313	$ 101,429	$ 103,085	6.4%	1.6%
New Castle	$ 173,215	$ 204,096	$ 216,806	17.8%	6.2%
North Castle	$ 132,308	$ 148,800	$ 150,329	12.5%	1.0%
New York State	**$ 54,408**	**$ 54,565**	**$ 53,376**	0.3%	-2.2%

Conversely, poverty rates in the East-of-Hudson region are relatively low. While current data on the percentage of all residents with incomes below the poverty level are not available at the town level, the Census Bureau provides estimates at the county level for 2006-2008. The county level poverty rates are shown in Table 3-54.

Table 3-54: People living under the poverty level, by county, 2006-2008

County	% people with income below poverty level
Dutchess	8.1%
Putnam	6.3%
Westchester	7.5%
New York State	*13.8%*

Residential development

DemographicsNow estimates that in 2008 there were 64,017 housing units in the eight Catskill-Delaware watershed towns east of the Hudson. The total number of housing units in these towns grew by 9 percent between 1990 and 2000, and by 4 percent between 2000 and 2008. As Table 3-55 shows, growth was particularly strong in the watershed towns of Putnam and Dutchess counties.

Table 3-55: Housing units, 1990-2008

Town	1990	2000	2008	% change, 1990-2000	% change, 2000-2008
Dutchess County					
East Fishkill	7,265	8,495	9,570	17%	13%
Putnam County					
Carmel	10,152	11,283	11,955	11%	6%
Kent	5,073	5,353	5,569	6%	4%
Putnam Valley	3,986	4,253	4,555	7%	7%
Total	**19,211**	**20,889**	**22,079**	**9%**	**6%**
Westchester County					
Harrison	7,931	8,624	8,315	9%	-4%
Mount Pleasant	13,228	14,002	14,240	6%	2%
New Castle	5,545	5,825	5,853	5%	0%
North Castle	3,529	3,706	4,160	5%	12%
Total	**30,233**	**32,157**	**32,568**	**6%**	**1%**
EOH Total	**56,709**	**61,541**	**64,217**	**9%**	**4%**

As in other parts of New York State and the U.S., housing prices have increased significantly in the East-of-Hudson towns during the past decade. Table 3-56 shows how median sale price of single-family homes has risen in the eight towns since 2001.

Table 3-56: Median sale price of single-family homes, 2001-2009

	Median sale price		% Change,
Town	2001	2009	2001-2009
East Fishkill	$265,000	$385,000	45%
Carmel	$255,000	$360,000	41%
Kent	$187,000	$255,000	36%
Putnam Valley	$208,500	$335,500	61%

The economy of the East-of-Hudson region

Between 1997 and 2007, payroll employment in the three East-of-Hudson watershed counties rose by a robust 12.1 percent. In Putnam County, payroll employment rose by a particularly strong 33.5 percent. With the beginning of the recession in 2008, the region began to lose jobs – but average annual employment declined by only 0.5 percent. Payroll employment by county is shown in Table 3-57.

Table 3-57: Total Industries Payroll Employment, 1997 – 2008

County	1997 Average Annual Employment	2007 Average Annual Employment	2008 Average Annual Employment	Change 1997 - 2007	% Change 1997 - 2007	Change 2007 - 2008	% Change 2007 - 2008
Dutchess	102,894	116,551	115,006	13,657	13.3%	(1,545)	-1.3%
Putnam	19,399	25,900	25,213	6,501	33.5%	(687)	-2.7%
Westchester	380,082	420,597	420,107	40,515	10.7%	(490)	-0.1%
EOH Counties	*502,375*	*563,048*	*560,326*	*60,673*	*12.1%*	*(2,722)*	*-0.5%*
NYS	*7,902,044*	*8,550,093*	*8,596,391*	*648,049*	*8.2%*	*46,298*	*0.5%*

Source: New York State Department of Labor

Communities in Putnam and southern Dutchess County that were affected by the Land Acquisition Program participated in this growth. In the Hopewell Junction ZIP code area, for example, private payroll employment rose by 5.7 percent between 1997 and 2007 – a gain of 521 jobs. In the Carmel and Mahopac ZIP codes, payroll employment during the same period grew by 23 percent – a gain of 1,695 jobs. (Both areas have since seen some decline in employment.) In Westchester, inconsistencies between town and ZIP Code boundaries make ZIP Code-level data less useful for tracing changes in employment at the local level. Employment by ZIP Code is shown in Table 3-58.

Table 3-58: Employment by watershed area ZIP code, 1997 and 2007, East-of-Hudson ZIP watershed

Zip Code	Place Name	1997 Average Annual Employment	2007 Average Annual Employment	2008 Average Annual Employment	Change 1997-2007	% Change 1997 - 2007
Putnam		*7,514*	*9,209*	*9,166*	*1,695*	*23%*
10512	Carmel	4,980	5,738	5,663	758	15.2%
10541	Mahopac	2,535	3,472	3,503	937	37.0%
Dutchess						
12533	Hopewell Junction	9,125	9,646	9,091	521	5.7%
Total		**16,639**	**18,855**	**18,257**	**2,216**	**13.3%**

FUTURE WITHOUT THE PROPOSED ACTION

Socioeconomic conditions in the East-of-Hudson Catskill-Delaware watershed towns during the period 2010 through 2027 are likely to be similar to those of the past few years – with some notable differences.

The population of the eight towns is likely to keep growing through 2027, although at a somewhat slower pace than in the preceding decades. Population projections are generally not available at the town level. However, as shown below in Table 3-59, the Cornell University Program in Applied Demographics projects that between 2010 and 2025, the population of Dutchess County will increase by 9 percent; the population of Putnam County by more than 10 percent, and the population of Westchester County by nearly 4.8 percent.

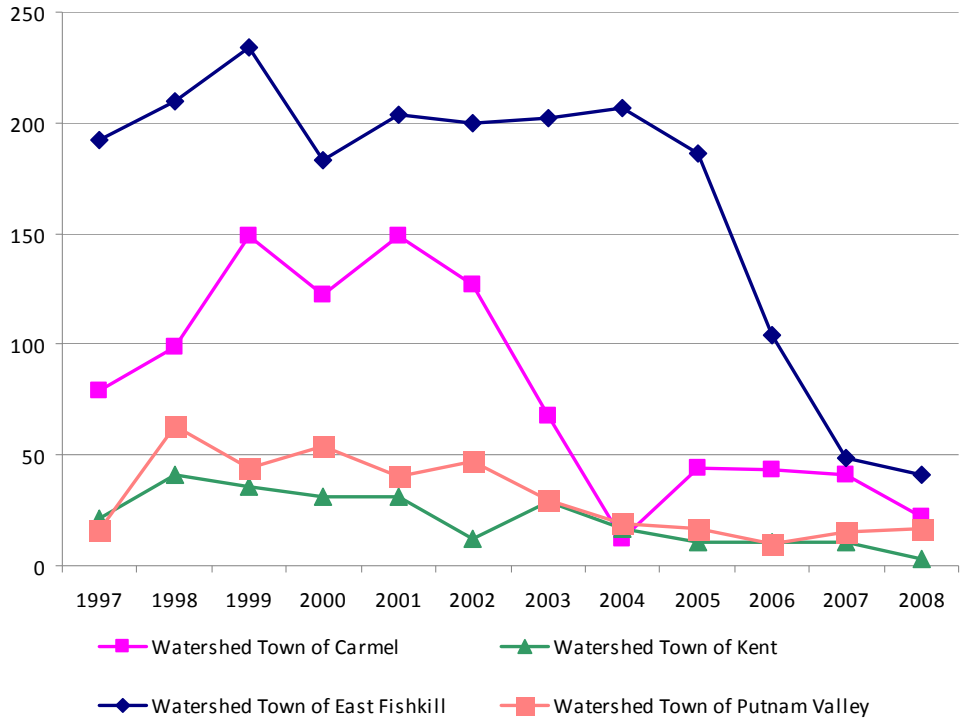
Table 3-59: Projected population growth, 2000-2025

County	2000	2010	2015	2020	2025	% Change 2000 to 2025	% Change 2010 to 2025
Dutchess County	280,150	301,396	310,896	320,154	328,519	17.27%	9.00%
Putnam County	95,745	103,186	106,826	110,354	113,576	18.62%	10.07%
Westchester County	923,459	964,914	980,555	996,357	1,011,179	9.50%	4.79%

Source: Cornell University, Program on Applied Demographics, 2010

The pace of residential development will also be significantly slower between 2010 and 2027 than in the preceding decades. Figure 3-17 traces the number of new units authorized under building permits issued in several East-of-Hudson towns between 1997 and 2008. As the graph shows, the number of new units dropped sharply after the middle of the decade, reflecting the end of the housing bubble and the beginning of the recession. While housing and mortgage markets will eventually recover, residential construction is likely to remain depressed for at least the next few years – and is unlikely to return at any time during the next twelve years to the levels reached during the early 2000s.

Figure 3-17: Number of residential units in building permits issued, 1997-2008



The economy of the East-of-Hudson watershed region has consistently been among the strongest regional economies in New York State during the past several decades, and this pattern is likely to continue. In 2009, an employment forecast prepared for the New York Metropolitan Transportation Council projected that between 2010 and 2025, employment in the Dutchess, Putnam and Westchester counties would grow by 17 percent – an increase of 135,000 jobs. The population forecast is shown in Table 3-60.

Table 3-60: Projected employment growth, East-of-Hudson counties, 2010-2035

County	2010	2015	2020	2025	2030	2035	% Change 2010 - 2020	% Change 2010 - 2025
Dutchess	159.5	171.2	182.0	193.2	203.2	213.5	14.1%	21.1%
Putnam	40.7	43.1	45.3	47.2	48.8	50.3	11.3%	16.0%
Westchester	588.3	620.9	650.3	683.3	712.7	743.0	10.5%	16.1%
EOH Counties	**788.5**	**835.2**	**877.6**	**923.7**	**964.7**	**1,006.8**	**11.3%**	**17.1%**

Source: New York Metropolitan Transportation Council

FUTURE WITH THE PROPOSED ACTION

In the West-of-Hudson region, NYCDEP expects that the overall scale of solicitation under the Extended Land Acquisition Program, and the mix of acquisitions in fee simple and conservation easements will generally be similar to or, in some areas of high focus, greater than what they have been during the past twelve years. In the portion of the Catskill-Delaware watershed that lies east of the Hudson, in contrast, areas of focus for the Land Acquisition Program (as outlined in NYCDEP's September 2009 Long-term Land Acquisition Plan) and the total acreage to be acquired between 2010 and 2027 are likely to be substantially less than the historic pattern of activity.

For information purposes, and to provide some context for the assessment of future impacts that follows – Table 3-61 provides some data on land and easements acquired through June 2009 in the eight East-of-Hudson towns.

Table 3-61: LAP activity to date in the eight EOH Catskill-Delaware towns[1]

	Total town acres	% of town acres in watershed	Acres acquired in fee by LAP	Acres acquired in CE by LAP	Acres of WAC farm easements	Total acres acquired by LAP through 6/09
East Fishkill	36,799	16%	1,049	0	0	1,049
Kent	27,358	84%	5,299	628	0	5,927
Carmel	26,077	93%	860	0	0	860
Putnam Valley	26,464	8%	774	0	0	774
Harrison	11,104	7%	0	0	0	0
Mount Pleasant	20,981	10%	25	0	0	25
New Castle	15,024	65%	21	110	0	131
North Castle	16,712	29%	88	0	0	88

As noted above, NYCDEP expects to acquire additional land primarily in only four of the eight towns – East Fishkill, Kent, Carmel and Putnam Valley. Although land could be purchased in other towns, for example around the Kensico Reservoir, the supply of land is very limited and the cost is very high. Any land purchased would represent a very small portion of the affected town and would likely be land that is currently used for another purpose (rather than vacant land). Therefore, no potential significant adverse socioeconomic impacts would be expected to occur.

10 Year Projection Scenario

Table 3-62 presents the projected level of acquisitions in each of the four primary towns through 2022.

[1]The data include acquisitions in both the Catskill-Delaware and Croton watershed areas.

Table 3-62: Projected LAP activity in East-of-Hudson Catskill-Delaware watershed towns through 2022

County	Town	Project LAP acquisitions through 2022 (acres)	Est. developable land acquired (acres)
Dutchess	East Fishkill	307 acres	118 acres
Putnam	Carmel	189 acres	81 acres
Putnam	Kent	987 acres	329 acres
Putnam	Putnam Valley	34 acres	10 acres
TOTAL		**1,517 acres**	**538 acres**

Using the same approach used previously to gauge LAP's impact on the supply of developable land west of the Hudson, Table 3-63A shows the projected impact of the Land Acquisition Program on the supply of developable land in the four towns. As the table shows, the program's impact varies widely across the four towns.

Table 3-63A: Impact of LAP on East-of-Hudson Catskill-Delaware towns through 2022

County	Town	Total Town Land	Available developable acres, 2009	Projected developable land acquired through 2022	Developable land needed for housing through 2022	Developable land left in 2022	% of 2009 developable land left in 2022	LAP contribution	Housing contribution	% of town area developable, 2009	% of town area developable, 2022
Putnam	Carmel	24,029	1,520	81	842	597	39%	5%	**55%**	6.3%	2.5%
Dutchess	East Fishkill	36,799	4,192	118	1,516	2,558	61%	3%	**36%**	11.4%	7.0%
Putnam	Kent	26,959	2,096	329	180	1,588	76%	16%	9%	7.8%	5.9%
Putnam	Putnam Valley	27,464	5,560	10	569	4,981	90%	0%	**10%**	20.2%	18.1%
	TOTAL	**115,250**	**13,368**	**537**	**3,107**	**9,724**	**73%**	**4%**	**23%**	**12%**	**8%**

In Putnam Valley, LAP's potential impact is limited by the fact that only 8 percent of the Town's total area is within the watershed. Moreover, the number of acres that LAP expects to acquire in Putnam Valley between 2010 and 2022 is relatively small – 34 acres, of which about 10 acres are characterized as developable.[1] This represents less than 0.2 percent of the Town's supply of developable land as of 2009.

In East Fishkill, Carmel and Kent, the amount of land projected to be acquired by LAP through 2022 is more substantial. However, due to the lesser focus on East of Hudson in the Extended LAP, the projected rate of LAP acquisitions and the projected rate of development do not meet the threshold for more detailed town-level analysis as described in the assessment of socioeconomic impact west of the Hudson – projected LAP acquisition of at least 20 percent of the town's 2009 supply of

[1] For purposes of this analysis developable land does not have any of the following characteristics: a 100-foot buffer on streams and waterbodies, a 300-foot buffer on reservoirs and reservoir stems, DEC-mapped wetlands with a 100-foot buffer, federal jurisdiction wetlands with no buffer, FEMA 100-year floodplains, slopes of greater than 15 percent, or land with slow infiltrating soils (NRCS Hydrological Soil Group D); land with any one or more of these characteristic in considered undevelopable.

developable land, or projected consumption of at least 10 percent of 2009 developable land by new residential development, combined with LAP acquisition of greater than 5 percent.

It should be noted that the estimates of developable land available in each town as of 2009 and developable land remaining in 2022 that are presented in Table 3-63 A are conservative in several respects.

- Our definition of developable land excludes several categories of land that could in fact support future development, including currently-undeveloped portions of residential parcels of less than 15 acres; commercial and industrial land; and agricultural land.
- The estimates of the amount of developable land required to support new residential development assume that the average annual rate of new housing construction that the four towns experienced from the late 1990's through 2008 will be sustained through 2022. Given a sharp decline in new development during the past few years – as shown above in the discussion of "future conditions without the proposed action" –and the prospect of a slow recovery, this seems unlikely.

The potential impact of additional acquisitions in East Fishkill, Carmel and Kent on the supply of developable land is discussed below.

East Fishkill

The potential impact of future acquisitions on socioeconomic conditions in East Fishkill is shaped by several factors:

- The relatively small portion of the Town that lies within the watershed;
- The extent to which the area within the watershed differs from the rest of the Town; and
- The pace of residential development within the Town.

As shown in Table 3-63, only 16 percent of East Fishkill's total area lies within the watershed. Moreover, the 5,832-acre watershed area – located in the southeastern part of the Town – differs from the rest of the East Fishkill in several respects. Elevations are higher, and the terrain is more rugged – according to the Town's 2002 comprehensive plan, about 50 percent of the total land area of this portion of the Town consists of land with slopes of more than 25 percent.

East Fishkill's housing stock has grown rapidly in the past two decades – from 7,265 in 1990 to an estimated 9,570 in 2008, an increase of nearly 32 percent. For the period 1997 through 2008 (according to data provided by the Census Bureau) new residential building permits issued in East Fishkill averaged 168 units per year.

Table 3-63 suggests that if growth were to continue at that pace, new residential development between 2010 and 2022 would consume about 36 percent of the Town's supply of developable land (as of 2009). However, using the average rate of new development between 1997 and 2008 as a basis for projecting future growth may overstate the likely rate of development in East Fishkill. As Figure 3-17 shows, issuance of new residential building permits declined sharply in the east-of-Hudson towns as the housing boom came to an end.

In contrast to the relatively high rate of consumption of developable land for new housing projected in Table 3-63, the developable portion of land projected to be acquired under LAP represents only 3 percent of the Town's supply of developable land as of 2009.

Carmel

Carmel lies almost entirely within the watershed; watershed land accounts for 93 percent of the Town's total land area. It is the most developed of the four towns highlighted in Table 3-63, and has the smallest amount of developable land still available as of 2009. As a result of the relatively high rate of development projected in Carmel – 100 units per year between 2010 and 2022 – the analysis indicates that only 39 percent of the town's 2009 supply of developable land would still remain in 2022. However, LAP's contribution to the removal of developable land is modest. The amount of developable land projected to be acquired by NYCDEP is 81 acres, and represents only 5 percent of the town's 2009 supply of such land.

Several factors are likely to alleviate any such conflicts between LAP acquisitions and residential development. As noted above, projections based on past rates of new construction may overstate the rate of development through 2022; the likelihood that future LAP acquisitions would occur in outlying parts of the town; and the town's desire to preserve open space.

Kent

As Table 3-62 shows, the acreage projected to be acquired by LAP is greater in Kent than in other East-of-Hudson towns – both in absolute terms and as a percentage of the Town's total supply of developable land. Through 2022, projected acquisitions under LAP would take 16 percent of the Town's 2009 supply of developable land.

However, the rate of new residential development is projected to be significantly lower in Kent than in the other towns where LAP will be acquiring land – an estimated 28 units per year in Kent, as compared to 168 per year in East Fishkill, and 100 in Kent. New residential development between 2010 and 2022 is projected to consume about 9 percent of Kent's 2009 supply of developable land. As of 2022, the Town would still have about 1,588 acres of developable low-density residential and vacant land – about 76 percent of the supply of such land in 2009.

15 Year Greater Impact Scenario

As shown below in Table 3-63 B, the impact of increasing by 10 percent the total acreage to be acquired is small in both relative and absolute terms.

Table 3-63 B: 15 Year Greater Impact Scenario on East-of-Hudson towns

County	Town	Available developable acres, 2009	Projected developable land acquired through 2027	Developable land needed for housing through 2027	Developable land left in 2027	% of 2009 developable land left in 2027	LAP contribution	Housing contribution	% of town area developable, 2009	% of town area developable, 2027
Dutchess	East Fishkill	4,192	129	2,148	1,914	45.7%	3.1%	51.2%	11.4%	5.2%
Putnam	Carmel	1,520	89	1,192	238	15.7%	5.8%	78.5%	6.3%	1.0%
Putnam	Kent	2,096	362	254	1,480	70.6%	17.3%	12.1%	7.8%	5.5%
Putnam	Putnam Valley	5,560	11	806	4,743	85.3%	0.2%	14.5%	20.2%	17.3%
	TOTAL	**13,368**	**591**	**4,401**	**8,376**	**62.7%**	**4.4%**	**32.9%**	**11.4%**	**7.1%**

Under the 15 Year Greater Impact Scenario, projected acquisitions by NYCDEP would increase from 1,517 acres to 1,669. Under this alternative, the percentage of developable land remaining in 2027 declines from the 9,724 acres estimated under the 10 year permit scenario to 8,376 – but this change is due almost entirely to the additional residential development that is projected to occur between 2022 and 2027.

Impact on land prices, housing and affordability

In contrast to the acreage to be acquired under LAP west of the Hudson, which represents approximately 9.8 percent of all West-of-Hudson watershed land, the 1,669 acres projected to be acquired east of the Hudson represent only 0.6 percent of East-of-Hudson watershed land. Especially in the context of a regional real estate market that has consistently been one of the strongest in the greater New York metropolitan area in recent decades, LAP will clearly be in the position of a "price taker" in the East-of-Hudson towns – its level of engagement in the market will simply be too small to have a significant impact on either land prices or housing costs.

Impact on business and commercial activity

The impact of projected future acquisitions on major industries and on commercial development in the East-of-Hudson watershed towns is likely to be limited. As noted above, acquisition of land and easements under LAP has since 1997 proven to be fully compatible with strong growth in both Putnam County and southern Dutchess County. Between 1997 and 2009, LAP acquired more land in Putnam County (measured as a percentage of the county's total land area) than in any other county east or west of the Hudson – and Putnam recorded by far the strongest employment growth of any of the eight watershed counties.

Moreover, the potential for any adverse impact on the future economic vitality of the East-of-Hudson watershed towns is limited by the decline in the level of acquisition activity projected by NYCDEP. The 1,669 acres NYCDEP expects to acquire between 2010 and 2027 is less than 20 percent of the acreage acquired between 1997 and 2009.

The potential for conflict is also limited by the fact that land-based industries – particularly agriculture and natural resources – are a relatively small part of the region's economy. Outdoor recreation plays a more significant role – but the impact of projected acquisitions by NYCDEP on outdoor recreation will if anything be positive.

Finally, the 1997 MOA strictly limits acquisition by NYCDEP of land zoned for commercial or industrial use. This further limits the potential for conflict between acquisition of additional land under LAP and the towns' economic vitality.

Impact on local government revenues

Acquisition of watershed land by NYCDEP could also have a direct effect the region's economy through its impact on county, municipal and school district tax revenues. Based on the analyses conducted above for impacts on developable land, there would not be significant displacement effects due to the Extended LAP. Further, the Extended LAP is unlikely to constrain the overall level of development in watershed towns. Therefore, the potential for new local tax revenues from new development should not be reduced under the Extended LAP.

As noted in the discussion of LAP's potential impact on local government revenues west of the Hudson, land and easements acquired by New York City are fully taxable. Acquisition of land by NYCDEP thus has no direct affect on local property tax revenues. Moreover, although NYCDEP pays full taxes on property interests it has acquired, it is important to recognize that properties acquired under LAP represent only a very small portion of the total assessed value – and generate a very small portion of the revenues of – the affected local taxing jurisdictions. In 2008:

- The $874,579 in general property taxes paid by NYCDEP on LAP-acquired properties east of the Hudson represented less than 0.1 percent of the combined real property tax revenues of the affected counties and towns; and
- The $2,213,916 in school taxes paid by NYCDEP on LAP-acquired properties represented only 0.28 percent of the combined real property tax revenues of the affected school districts.

Given that the acreage projected to be acquired under LAP between 2010 and 2027 is less than 20 percent of the acreage acquired in the eight east-of-Hudson Catskill Delaware watershed towns, tax revenues generated by the newly-acquired property are likely to represent an even smaller fraction of 1 percent of the revenues of the affected jurisdictions' real property tax revenues.

Finally, because the acquisition of 1,669 acres between 2010 and 2027 is not expected to constrain to any significant extent the pace of new development in the East-of-Hudson towns, it is unlikely to affect the towns' potential to generate new revenues through development.

Given the very small portion of taxable value that any newly-acquired property will represent, the fact that these properties remain fully taxable, and the lack of any significant impact on new development, it is extremely unlikely that future acquisitions in the East-of-Hudson towns could have any substantial impact on local government or school district revenues.

Conclusion

Overall, the projected acquisitions in the East-of-Hudson portion of the Catskill-Delaware watershed under the Extended LAP – which represent only 0.7 percent of all East-of-Hudson watershed land, and only 1.6 percent of the watershed land that NYCDEP is projected to acquire during that period, on both sides of the Hudson – would have only a very limited impact on the supply of developable land, in watershed towns, and generally would not affect land or housing prices, growth rates, business conditions or local government revenues. Based on the analysis provided in this report, the Extended LAP is not expected to result in potential significant levels of direct or indirect displacement or other potential significant adverse socioeconomic conditions in the East-of-Hudson watershed.