

CHAPTER 2:

LAND USE AND COMMUNITY CHARACTER

INTRODUCTION

This chapter of the Draft EIS assesses the impact of the proposed action on land use in the Cat-Del watershed region, and on the character of communities in this region. It includes:

- A description of existing conditions in the West-of-Hudson watershed region;
- A discussion of trends likely to shape land use and community character in the region between 2010 and 2022 in the absence of the proposed action; and
- An examination of the potential impact of additional acquisitions under the Land Acquisition Program on land use and on the character of communities west of the Hudson.

The chapter then discusses existing conditions, the future without the proposed action, and the potential impact of additional acquisitions on land use and community character in the East-of-Hudson region.

WEST-OF-HUDSON

EXISTING CONDITIONS

The West-of-Hudson Cat-Del watershed is an area of more than 1 million acres, covering all or part of 41 towns in five New York State counties. Patterns of land use and development vary across the watershed. Table 2-1 and Figure 2-1 summarize the land uses in the watershed portion of each county.¹

For the watershed as a whole, the single largest land use category shown in the table is protected lands – lands owned primarily by New York State (primarily in the Catskill Preserve) and New York City and to a lesser extent by private conservation groups. These properties account for approximately 34 percent of all land in the 1.013 million-acre watershed, ranging from 20 percent in Delaware County to 60 percent in Ulster County.

The second largest category is residential land, with about 314,300 acres – about 31 percent of all land in the watershed. The third largest category is private vacant land – about 23 percent of the watershed lands. Agriculture makes up about 7 percent of watershed lands, while commercial businesses comprise about 2 percent of watershed lands.

¹ The data in Table 2-1 are based on a land use categorization by NYCDEP using tax parcel property use codes obtained from the New York State Office of Real Property Services (NYSORPS). The acreage in each class excludes all land outside the boundary of the watershed. The total for the acres in the columns entitled Agriculture, Residential, Commercial/Industrial/Community, Total Protected Land, and Private Vacant does not equal the Acres in Watershed column because this excludes parcels for which land use data is not known (less than one percent of the total) and the tax parcel polygons do not include the acreage in road rights-of-way.

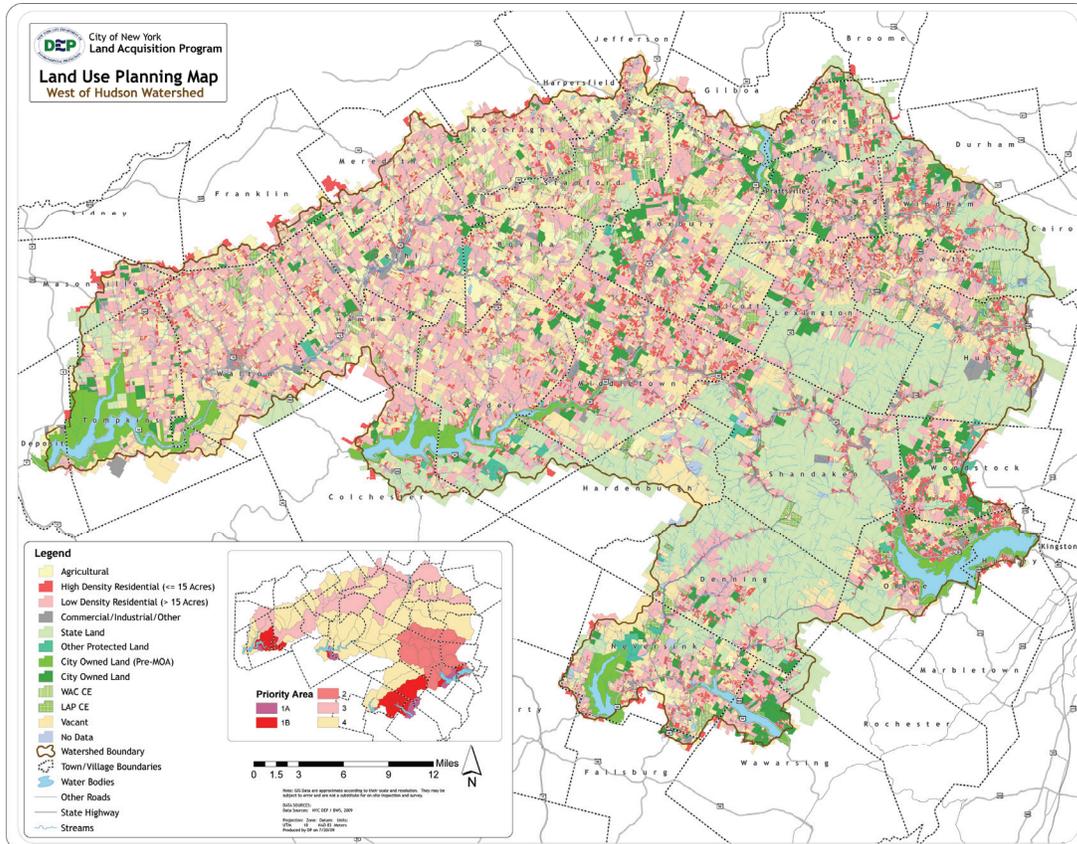
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Table 2-1: Land Uses Within the Watershed

	Delaware	Greene	Schoharie	Sullivan	Ulster	TOTAL
Total acres in the county	925,440	414,720	398,080	620,800	720,640	3,079,680
Land acres in the watershed	492,487	199,701	34,613	42,919	221,465	991,185
Agriculture acres	61,178	4,552	5,389	1,489	2,205	74,812
% of the watershed	12%	2%	15%	3%	1%	7%
Residential acres	190,111	54,730	12,198	12,459	44,787	314,285
% of the watershed	38%	27%	34%	28%	19%	31%
Com./ind./community acres	8,421	4,728	590	406	2,091	16,236
% of the watershed	2%	2%	2%	1%	1%	2%
Protected acres	96,592	81,912	6,797	15,079	133,179	333,558
% of the watershed	20%	41%	20%	35%	60%	34%
Vacant land acres	130,246	50,357	9,562	11,931	34,922	237,019
% of the watershed	26%	25%	27%	26%	15%	23%
Unclassified land acres	5,938	3,423	77	1,555	4,281	15,274
% of the watershed	2%	2%	1%	3%	2%	2%

Source: NYC DEP and ORPS, 2009

Figure 2-1: Map of land uses in the West of Hudson Watershed



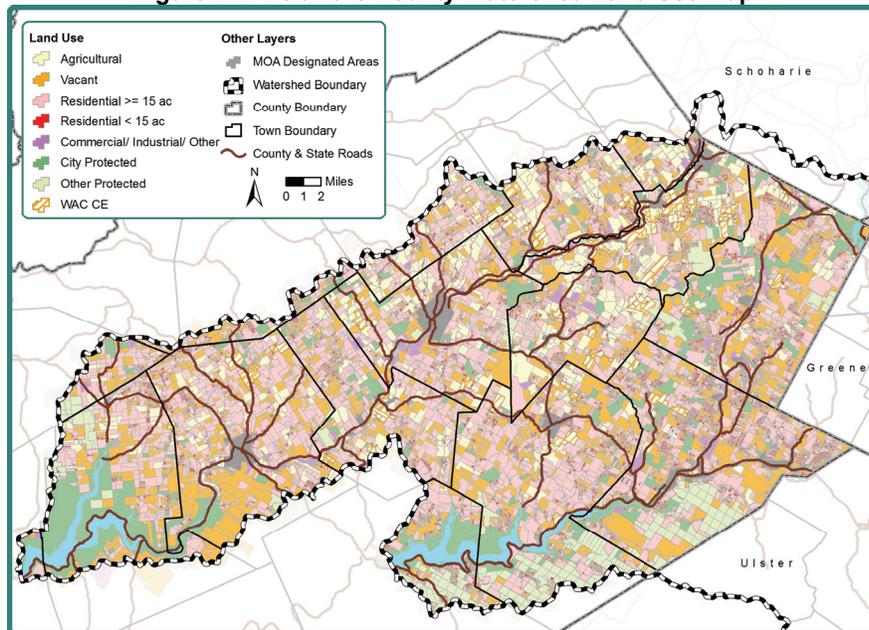
Land can also be classified according to its physical characteristics. According to data compiled by NYCDEP, in 2001 about 81 percent of all watershed land in the West-of-Hudson area was forest-covered. Moreover, research published in 2008 by the SUNY College of Environmental Science and Forestry and the Yale School of Forestry and Environmental Studies found that in recent decades the total acreage of forest land has increased in the West-of-Hudson watershed area, primarily as a result of the reforestation of land previously classified as agricultural. Between 1975 and 2002, total forested acreage in this area increased by 11 percent. Conversely, there was a 34 percent decline in the amount of land in active agricultural use, and a 33 percent increase in developed land.¹

Delaware County

The existing land uses for the watershed portion of Delaware County are shown below in Figure 2-2. As shown in Table 2-1, 12 percent of the watershed portion of the county consists of agricultural lands, by far the highest number of acres of any of the watershed counties. Residential uses comprise 38 percent of the county’s total area within the watershed, while only two percent of watershed areas within the county are allocated for commercial/industrial use. Twenty-one percent of the watershed area in the county is comprised of protected lands.

While Delaware County is largely rural, the character of its communities varies. Especially in the northern and western part of the county, agriculture remains a significant part of the local economy and local community life. Much of the resident population, and most civic and commercial activity, is concentrated in and around the County’s villages and hamlets – most notably in and around the Village of Delhi, the county seat and the location of the SUNY-Delhi campus. Several towns have significant second-home populations, including Andes, Bovina, Stamford and Roxbury. Figure 2-2: Delaware County Watershed Land Use Map

Figure 2-2: Delaware County Watershed Land Use Map



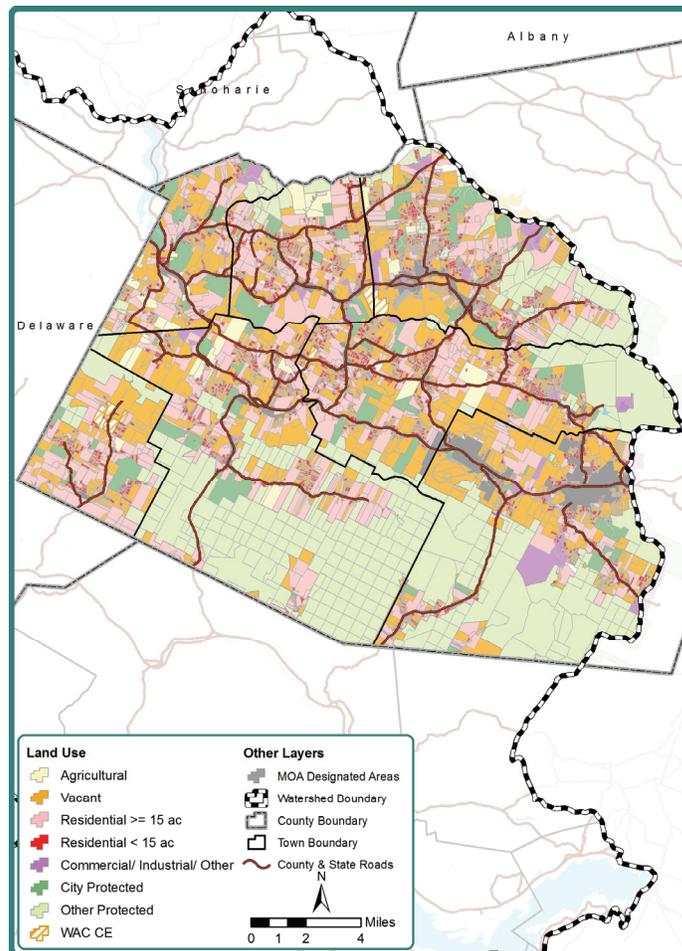
¹ Myrna Hall, Rene Germain, Mary Tyrrell and Neil Sarpor, *Predicting Future Water Quality from Land Use Change Projections in the Catskill-Delaware Watersheds*, SUNY College of Environmental Science and Forestry/Yale School of Forestry and Environmental Studies, December 2008 p.5.

Greene County

The existing land uses for the watershed portion of Greene County are shown in Figure 2-3. As shown in Table 2-1, Agriculture accounts for two percent of the area of the county within the watershed, and residential areas comprise 27 percent of the county areas within the watershed. Only two percent of watershed areas are allocated for commercial/industrial use. Forty-one percent of the watershed area in the county is comprised of protected lands.

The Greene County towns that are entirely (or, in the case of Hunter, mostly) within the boundaries of the watershed are collectively referred to as the “mountaintop towns,” reflecting their location in the Catskill mountain area and their relatively high elevation. The economy of the eastern mountaintop towns – Hunter, Windham, Ashland and Jewett – is based primarily on recreational activity, and in particular on major ski centers located in Windham and Hunter. These towns include several substantial villages and hamlets, including Hunter, Tannersville, Windham, Hensonville and Jewett. The western towns – Prattsville, Lexington and Halcott – are more rural, and less densely populated, with relatively little commercial activity. The mountaintop towns have the greatest concentration of second homes in the watershed, accounting for roughly half of all dwelling units.

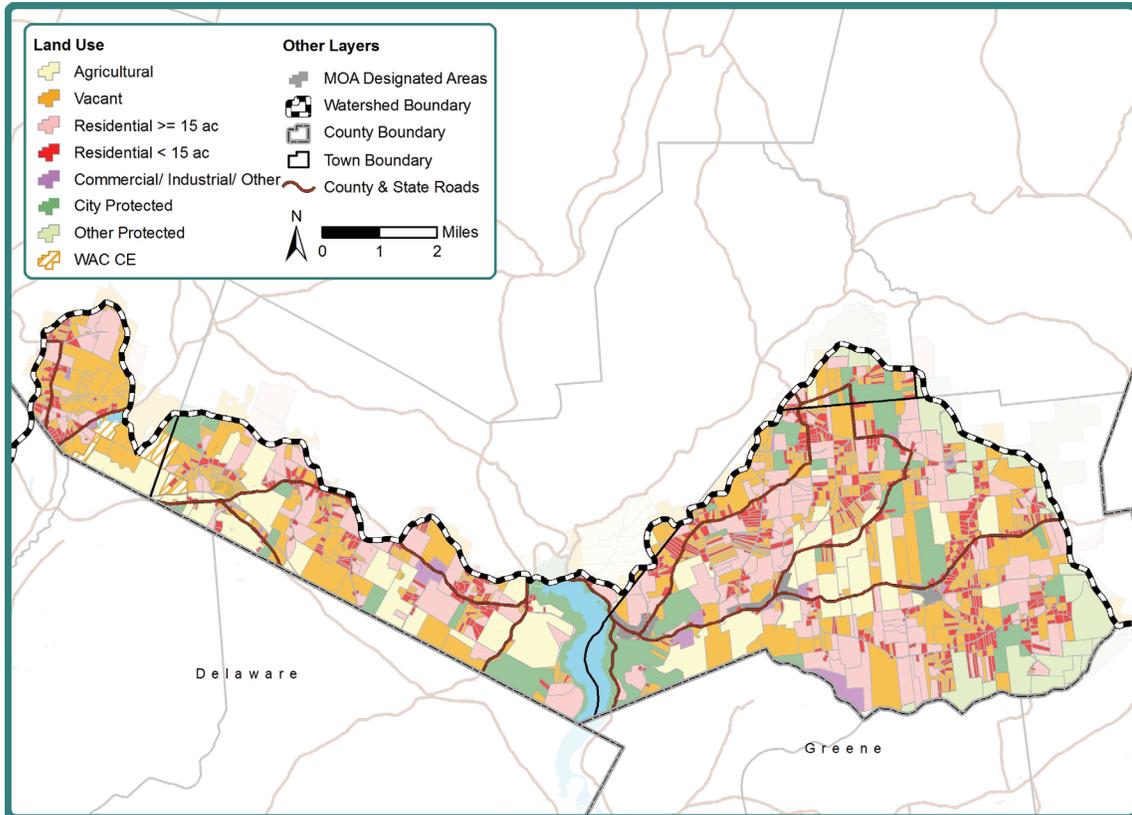
Figure 2-3: Greene County Watershed Land Use Map



Schoharie County

The existing land uses for the watershed portion of Schoharie County are shown in Figure 2-4. As shown in Table 2-1, 15 percent of the watershed portion of the county’s watershed land is in

Figure 2-4: Schoharie County Watershed Land Use Map



agricultural use, while residential uses comprise 34 percent. Twenty-one percent of all watershed land in Schoharie County consists of protected land, including land owned by the State or the City, or by private non-profit conservation groups, or covered by some type of conservation easement. Only two percent of all watershed land within the county is used for commercial/industrial and community purposes.

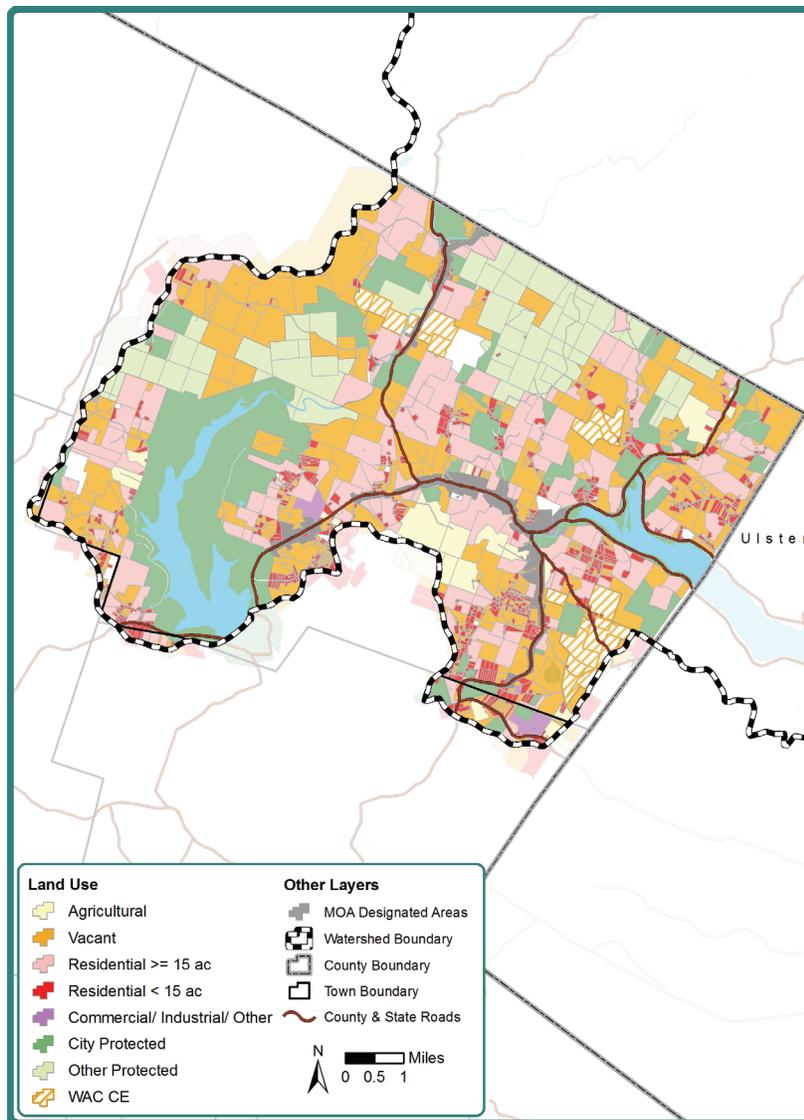
The Schoharie County watershed towns – Conesville, Gilboa and Jefferson -- are largely rural in nature. Agriculture – including both large and small farms, niche agricultural enterprises – still accounts for a significant part of the local economy. Other natural resource-based enterprises, including timber production and other forest-based businesses, are also significant. The area’s natural beauty has also made it attractive to second-home owners; 46 percent of all housing units in the watershed towns – and 54 percent in Conesville – are classified as being for seasonal or recreational use.

Sullivan County

Existing land uses for the watershed portion of Sullivan County are shown in Figure 2-5. As Table 2-1 shows, 3 percent of the watershed portion of the county consists of agricultural land, while residential uses account for 28 percent. Only one percent of watershed areas within the county are used for commercial/industrial purposes. Thirty-eight percent of the watershed area in the county is comprised of protected lands.

The watershed portion of the County consists primarily of the Town of Neversink, along with small portions of Liberty and Fallsburg. Neversink has been among the fastest-growing communities in the region in recent years, although it remains a rural community. Development in Neversink is concentrated primarily along Routes 42 and 55, and in and around the hamlet of Grahamsville.

Figure 2-5: Sullivan County Watershed Land Use Map

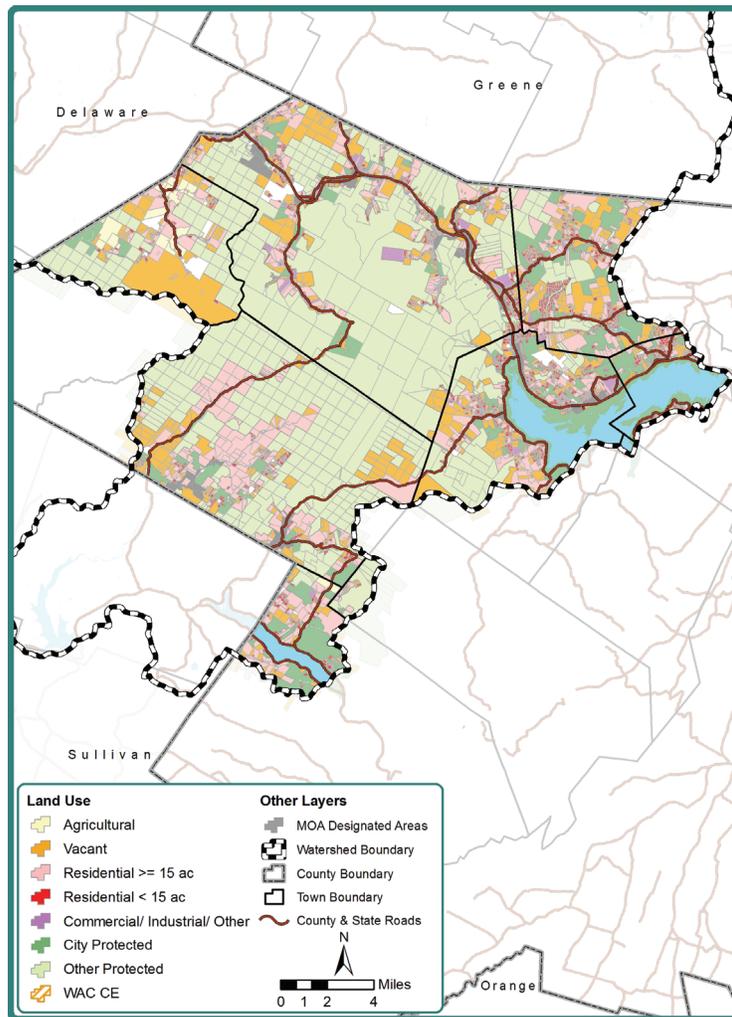


Ulster County

The existing land uses for the watershed portion of Ulster County are shown in Figure 2-6. As Table 2-1 shows, one percent of all watershed land the county is in agricultural use, while residential uses comprise 19 percent. Only one percent of watershed land within the county is used for commercial/industrial or community purposes. Sixty-two percent, the highest of any watershed county is comprised of protected lands, including significant portions of the Catskill Forest Preserve owned by New York State.

The watershed towns of Ulster County are diverse. They include two towns – Woodstock and Wawarsing – with relatively large populations; but in both cases the towns’ major population centers are located outside the boundaries of the watershed. In Olive and Shandaken, population and business activity tend to be concentrated in a network of relatively small, older hamlets that stretch along Route 28. In the western part of the county, Shandaken, Denning and Hardenburgh are characterized by small, slow-growing populations, mountainous terrain, and economies built on outdoor recreation.

Figure 2-6: Ulster County Watershed Land Use Map



Parcelization

Parcelization – the division of larger tracts of land into smaller parcels – has been a trend in the watershed for some time. Between 1996 and 2007, the total number of parcels rose from 45,403 to 47,085 – an increase of 3.7 percent over 11 years. Table 2-2 shows the seven West-of-Hudson towns with the greatest percentage increases in parcels and the seven with the lowest in percentage increase in parcels.

Table 2-2: Seven WOH towns with greatest percentage increases in parcels, seven WOH towns with lowest percentage increase in parcels (includes only areas within each town that are within the watershed)

Seven towns with greatest increase in parcels				Seven towns with lowest increase in parcels			
Town	Parcels in 1996	New parcels,	% change,	Town	Parcels in 1996	New parcels,	% change,
		1996-2007	1996-2007			1996-2007	1996-2007
Deposit	21	5	23.8%	Colchester	455	(3)	-0.7%
Gilboa	387	91	23.5%	Denning	730	5	0.7%
Jefferson	142	26	18.3%	Jewett	1,878	15	0.8%
Conesville	1,086	76	7.0%	Woodstock	1,204	10	0.8%
Franklin	189	13	6.9%	Middletown	3,998	45	1.1%
Stamford	1,694	116	6.8%	Tompkins	920	11	1.2%
Masonville	212	14	6.6%	Hurley	524	10	1.9%

Source: NYC DEP

Parcelization may sometimes be a leading indicator for residential development – although land that is subdivided may then remain undeveloped for some time. It should be noted, however, that not all parcelization reflects an intent to develop. It might also, for example, involve an owner selling 40 acres of a 50-acre tract to a neighboring farmer, or to NYCDEP, or to a non-profit land trust.

FUTURE CONDITIONS WITHOUT THE PROPOSED ACTION

Without the proposed action, several trends that have shaped land use in the West-of-Hudson watershed during the past ten to twenty years are likely to continue. The amount of land devoted to residential uses is likely to increase, as a result of new residential development. If the pace of development in watershed towns matches the pace at which new housing was developed from the 1990’s through 2008 (and assuming that the number of acres per unit remains constant) an estimated 30,000 acres of land would be needed to accommodate such development.

The increase in the amount of land in residential use within the boundaries of the watershed is likely, however, to be significantly smaller than the preceding estimate might imply – for several reasons:

- The pace of residential development during the next several years is likely to be slower than the pace of development during the past decade. Projecting residential development through 2022 based on trends during the past decade may thus overstate the amount of land that will

be consumed by residential development. See Chapter 3, *Socioeconomics Conditions*, for population projections.

- Some of the new development will occur on lots created through subdivision of larger, low-density residential parcels. In other cases, new housing may simply replace older structures that will be demolished. Both these types of development can result in an increase in housing stock without increasing the total amount of land in residential use. (See discussion on parcelization, above).
- Based both on existing development patterns and trends during the past decades, we can expect that only a portion of new residential development that occurs in the West-of-Hudson watershed towns will be within the boundaries of the watershed.

Between 1992 and 2008, according to the National Agricultural Statistics Service, the total amount of farmland in the five West-of-Hudson counties declined by 19.4 percent – an average annual decline of about 1.3 percent. If the total amount of land in agricultural use within the watershed were to decline at this rate through 2022, agricultural uses would decline from about 9 to about 7.5 percent of all watershed lands – a shift of about 15,300 acres from agricultural to other uses.

Without the proposed action, other changes in land use would (with several potential exceptions at the town level) be relatively small. Growth in total acreage used for other commercial, industrial and community purposes would be very small given that these uses only represent 2% of watershed land. Without the proposed action, there would likely be no significant growth in the amount of State, City or privately-protected land in the watershed region.

A variety of available sources were examined to identify future community character goals and characteristics of the communities valued by local residents. These include town and village comprehensive plans, surveys of local residents, generic environmental impact studies, and other local planning documents (see Table 2-3 for a complete list of sources reviewed).

Chapter 4 provides detailed community character assessments for towns most affected by the proposed action. Town and village plans, surveys of residents and other documents highlight certain features, characteristics, values and concerns that are common to many West-of-Hudson watershed communities. These include:

- The predominantly rural character of most watershed communities, and a desire on the part of residents and community leaders to maintain that character;
- A high-quality natural environment, and a commitment to protecting it;
- The availability of opportunities for a diverse array of outdoor recreational activities;
- A strong interest in preserving agriculture and other “working landscapes;”
- A strong interest in supporting (and, where necessary, revitalizing) hamlets and village centers, which in many towns are the principal centers of population and commerce – the places where much of the town’s history is centered – and in some cases, the places that offer the best prospects for new growth and development that is compatible with the towns’ interest in maintaining their rural character, natural beauty and agricultural base; and
- Recognition of the need to provide for an aging population, especially in terms of the availability of housing, health care and other services suited to the needs of older residents.

There are shared concerns across many watershed communities about the need to expand the range of economic opportunities available in the region – in particular, opportunities that would allow

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residents of the region to raise their incomes, and that would help the region retain and attract young adult workers and families.

Table 2-3: Planning and Other Documents Reviewed

Town Plans Reviewed	Town of Bovina, <i>Comprehensive Plan</i> , 2002
	Town of Conesville, <i>Comprehensive Plan</i> , August 2007
	Town of Denning, <i>Comprehensive Plan</i> , October 2007
	Town of Gilboa, <i>Comprehensive Plan</i> , March 2004
	Town of Halcott, <i>Comprehensive Plan</i> , December 2003
	Town of Hunter, <i>Comprehensive Plan</i> , 2000
	Town of Jewett, <i>Comprehensive Plan</i> , July 2007
	Town of Roxbury, <i>Comprehensive Plan</i>
	Town of Shandaken, <i>Comprehensive Plan</i> , July 2005
	Town of Walton, <i>Comprehensive Plan</i> , 2006
Other town documents	Town of Woodstock, <i>Comprehensive Plan</i> , 2003
	Town of Lexington, <i>Draft Generic EIS</i> , August 2003
	Town of Prattsville, <i>Draft Park Master Plan</i> , 2008
Village plans reviewed	Town of Windham, <i>Draft Generic EIS</i> , May 2009
	Village of Fleischmanns, <i>Comprehensive Plan</i> , draft, October 2009
	Village of Margaretville, <i>Comprehensive Land Use and Action Plan</i> , 2008
Other documents	Village of Stamford, <i>Comprehensive Plan</i> , April 2007
	Delaware County, <i>The New York City Watershed Economic Impact Assessment Report</i> , May 2009
	Delaware County <i>Action Plan for Watershed Protection and Economic Vitality</i> , May 2002
	AEL Associates, <i>Concern About the New York City Land Acquisition Program in Delaware County Communities: Summary of the 2009 Telephone Survey Results</i> , September 2009
	Greene County, <i>Comprehensive Economic Development Plan</i> , July 2007
	Greene County Soil & Water Conservation District, <i>Mountaintop Community Recreation, Cultural Resources and Scenic Quality Strategy</i> , January 2009
	Mountain Cloves Scenic Byway Steering Committee, <i>Mountain Cloves Scenic Byway: Proposed Corridor Management Plan</i> , October 2008
	Sullivan County, <i>Second Home Owner Study</i> , October 2008
	Ulster, Orange and Dutchess Counties, <i>Tri-County Regional Housing Needs Assessment</i> , April 2009
	Ulster County, <i>Open Space Plan</i> , December 2007
Other Sources	Ulster County, <i>Ulster Tomorrow: A Sustainable Economic Development Plan for Ulster County</i> , July 2008
	Andes Chamber of Commerce
	Andes.com
	Alliance for Bovina
	Hunter Chamber of Commerce
	Catskill Center for Conservation and Development
	Central Catskills Collaborative
	Town websites

FUTURE CONDITIONS WITH THE PROPOSED ACTION

Land Use

Under the Extended LAP, NYCDEP would acquire undeveloped land, which would remain undeveloped and therefore the current land uses for these lands would remain largely unchanged. One of the planning elements of LAP is that it seeks to acquire more ecologically-sensitive lands, thereby keeping future development in areas where it is largely occurring. The program could somewhat reduce the amount of parcelization that is occurring and the potential for sprawl development.

Because extension of the LAP would include continuation of the WAC agricultural easement program – with easements being potentially acquired on an estimated 16,000 additional acres of farmland through 2022 – it is possible that the extension of LAP would slightly reduce the 17 percent decline in farmland acreage expected to occur without the proposed action.

LAP would not be purchasing land in existing designated hamlet areas or within the boundaries of proposed hamlet expansions not only where towns opt to exclude these acquisitions, but also because parcels in these areas tend to be smaller and less desirable for LAP acquisition. Since most commercial development would be expected within these areas, commercial land uses are not expected to be substantially affected by the proposed action, and the existing land use patterns in these areas would continue. As documented in Chapter 3, *Socioeconomic Impacts*, in the year 2022, with the projected land acquisition under the proposed action, there would be ample area remaining to accommodate future growth in the watershed towns.

Community Character

Community character can be affected by changes in visual character, socioeconomic conditions, traffic and noise, among other impacts. No new structures would be constructed and no traffic or noise impacts would occur as a result of the proposed Extended LAP. The primary focus of this community character analysis is therefore potential impacts from changes in socioeconomic impacts.

The sections below discuss each of the major goals found in local planning documents as discussed in “Future Conditions without the Proposed Action” above. For a more detailed assessment of community character under the proposed action, see the assessments of the most affected towns provided in Chapter 4.

Maintaining rural character

Most of the land that NYCDEP has acquired to date under LAP consists of relatively large parcels of vacant or low-density residential land in outlying areas of watershed towns. As of July 2009, the average size of parcels acquired in fee simple in the West-of-Hudson region was 72 acres, and the average size of those on which the NYCDEP had purchased conservation easements was 156 acres. This pattern is likely to continue through 2022. Through the preservation of these relatively large parcels, LAP will contribute to maintaining the rural character of the communities in which it is buying land.

Protecting the natural environment

Acquisitions under LAP also contribute to protection of the natural environment of watershed communities. About two-thirds of the land acquired by NYCDEP is of a type, or is in locations, that help define the character of the natural environment – such as steep slopes, land along streams and other waterbodies, and wetlands; and 89 percent of the land acquired to date in the West-of-Hudson

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region in fee or through conservation easements is forested. Through 2009, acquisitions by NYCDEP have increased the percentage of protected land in the West-of-Hudson watershed from 24 to 34 percent of total land area. Additional acquisitions under LAP will continue to contribute to protection of the natural environment of watershed communities. In recent discussions with NYCDEP, the Coalition of Watershed Towns (CWT) has proposed to modify LAP's "Natural Features Criteria" (NFC) as described in *Chapter 1 Project Description*.

This change would probably not affect the total acreage to be acquired by NYCDEP through 2022, and correspondingly increase somewhat the amount of land acquired with features that help define the character of the natural environment in watershed communities.

The benefits that watershed communities realize from protecting the region's natural environment are not limited to its esthetic value. Protected land also benefits these communities by providing a variety of "ecosystem services" – for example, by helping to protect local drinking water supplies, both surface water and aquifers. Ensuring water quality is identified as a priority in many town and village comprehensive plans.

Outdoor recreation

The opportunities for outdoor recreation in watershed towns are an important characteristic of these communities – prized by full-time residents, second-home owners and visitors. Through its Land Acquisition Program, NYCDEP helps make land available for a variety of public recreational uses. As of the fall of 2009, NYCDEP had opened for recreational use 64 percent of the West-of-Hudson land acquired under LAP in fee simple – a total of 34,684 acres. If we apply the same percentage to the additional acreage NYCDEP expects to acquire in fee simple under LAP, we can estimate that NYCDEP will increase the total acreage open to public recreational use by more than 40,000 acres. In reality, the addition to lands available for recreational use is likely to be greater, as the trend in recent years has been for NYCDEP to increase the percentage of its land that is open to the public.

Many West-of-Hudson watershed communities already have extensive opportunities for outdoor recreation – especially those in Greene and Ulster counties that include large amounts of New York State-owned Forest Preserve land. Increasing the supply of land available for recreational uses through the acquisition of additional land by NYCDEP at a minimum reinforces what is already for many residents an important characteristic of these communities. At the same time, communities that have historically had less protected land – including many in northern and western portions of Delaware County – may benefit disproportionately from the opening of City-acquired land for public recreational uses.

Preserving agriculture

To date, the Watershed Agricultural Council has acquired agricultural easements on more than 17,000 acres of farmland. As of December 2009 (as discussed in Chapter 3), about 97 percent of the area covered by these easements was still in active agricultural use. On a smaller scale, NYCDEP also contributes to the preservation of agriculture in the region by making selected lands purchased in fee simple available for agricultural use. These programs help maintain a "working landscape" in many of the region's communities. Extension of the Land Acquisition Program should contribute to the preservation of agricultural uses in the watershed by making possible the purchase of additional WAC agricultural easements – expected by NYCDEP to total up to 16,000 additional acres through 2022.

With or without LAP, the region's agricultural sector, as noted in Part One, faces serious challenges. While they are a useful tool for preserving farmland, agricultural easements are not by themselves an answer to such challenges. There are, however, several factors that could between now and 2022 enhance the viability of farming in the region, including shifts to more profitable forms of agriculture, rising transportation costs, and growing demand for biofuels. Used in combination with other strategies that take advantage of these trends, WAC easements could help preserve agricultural land in West-of-Hudson watershed communities.

Preserving and revitalizing hamlets

Pursuant to the 1997 MOA, as noted previously, 23 towns have MOA Designated Areas, covering a total of 21,311 acres, within which towns and villages can elect to preclude NYCDEP from acquiring land in fee simple. This element of the LAP helps to reinforce historic centers of development and avoid purchase of lands designated for commercial use vital to the existing community character.

As discussed in Chapter 1, seventeen towns have proposed expansion of the areas, totaling about 27,500 acres, in which towns may preclude NYCDEP from purchasing land. The proposed hamlet-area expansions would increase the land area covered by these designations to almost 49,000 acres. NYCDEP estimates that the expanded hamlet areas contain approximately 15,000 acres that NYCDEP had previously solicited, but would henceforth agree not to acquire. The expansion of designated hamlet areas is not likely to change the total acreage to be acquired through 2022. But it will to some extent affect *where* NYCDEP acquires land. By exempting the expanded hamlet areas from any further acquisitions under LAP, while acquiring additional land in outlying areas, NYCDEP will in effect be supporting efforts in several towns to maintain or restore the economic vitality of hamlets and village centers.

Meeting the needs of older residents

The population of the West-of-Hudson watershed region is aging. The Cornell Program on Applied Demographics projects that by 2020, 19.9 percent of the population of the five West-of-Hudson counties will be age 65 or older. The increasing concentration of older residents is especially evident in Delaware County, where 28.8 percent of all residents in 2020 are expected to be age 65 or older.

The aging of the region's population will have an effect on development patterns, as towns seek to encourage development of housing and services for older residents in hamlets and village centers. This could lead to greater density of new development – and thus to a reduction in the total volume land required to support new residential development.

The aging of resident owners could also have an impact on the Land Acquisition Program. Owners' interest in selling all or part of their land could increase – whether to meet retirement needs, because of lack of interest on the part of their families in keeping the property, or for other reasons. The result could be an increase in the rate of acceptance of NYCDEP's solicitations of land owners.

The proposed action could benefit older residents of West-of-Hudson communities in several ways:

- By taking advantage of the opportunity to sell a portion of their land to (or grant an easement to) NYCDEP, some older owners would be able to obtain money that would allow them to remain in (and in some cases invest in) their homes, while leaving the character of the land they sell largely undisturbed;
- At the same time, expansion of designated hamlet areas would help ensure that land remains available for development of senior housing within hamlets and village centers.

Conclusions

The Extended LAP would reinforce community goals of preserving natural features and rural character, and enhancing opportunities for outdoor recreation. The designated hamlets and their potential future extension would contribute to reinforcing and preserving hamlet centers. It would preserve sensitive water resources, while keeping future development in hamlets and expanded areas where much of it currently occurs. The program would not conflict with goals of meeting needs of older residents. As discussed in Chapter 3, *Socioeconomic Conditions*, there are not expected to be significant direct or indirect displacement effects. In addition, the town level assessments provided in Chapter 4 did not identify potential significant land use or community character impacts. Therefore the proposed action is not expected to result in potentially significant adverse impacts on land use or community character.

EAST OF HUDSON

EXISTING CONDITIONS

The East-of-Hudson watershed region differs from the West-of-Hudson region in several important respects. As shown in Table 2-4, the East-of-Hudson watershed encompasses a total of 234,171 acres, covering portions of twenty towns and one city in three New York State counties. (The watershed also includes a small portion of the State of Connecticut, which is not covered by the Land Acquisition Program and is not included in this analysis.) The East-of-Hudson area is thus less than one-quarter the size of the West-of-Hudson watershed region. Moreover, the East-of-Hudson region is much more densely developed; the overall character of most areas within the region is suburban rather than rural.

The East-of-Hudson watersheds primarily serve the Croton System, feeding into the terminal New Croton Reservoir in the towns of Yorktown and Cortlandt (Westchester County). However three reservoirs East-of-Hudson function as part of the Cat-Del System, due to connections with aqueducts en route from West-of-Hudson to New York City: West Branch and Boyd's Corner Reservoirs in Putnam County, and Kensico Reservoir in Westchester County. These three Cat-Del reservoirs have been the focus of LAP in the East-of-Hudson region. While LAP has acquired land in the Croton System basins, the vast majority of past (and future) acquisition activity East-of-Hudson is expected to be in the three Cat-Del basins. This analysis will consider existing conditions throughout the East-of-Hudson region, while the impact assessment will focus on the areas where acquisitions are expected to occur.

As shown in Table 2-4, residential uses account for about 34 percent of all land in the East-of-Hudson watershed, and State, City or privately-protected land for 23 percent. Commercial, industrial and community uses account for 6.4 percent of all land (as compared with only 1.6 percent in the West-of-Hudson watershed), while agricultural uses account for only 2.8 percent.

Table 2-4: Land Uses in the East-of-Hudson Watershed

County	Total acres	Acres in the watershed	Agriculture		Residential		Commercial/ industrial/ community		Total protected lands		Private vacant	
			Acres	% of WS	Acres	% of WS	Acres	% of WS	Acres	% of WS	Acres	% of WS
Dutchess	85,396	20,491	3,003	15%	9,016	44%	473	2%	1,374	7%	5,823	28%
Putnam	124,244	92,377	1,116	1%	30,612	33%	7,562	8%	22,995	25%	22,655	25%
Westchester	223,881	121,303	2,524	2%	40,881	34%	7,020	6%	28,568	24%	12,797	11%
EOH Total	433,521	234,171	6,643	3%	80,509	34%	15,055	6%	52,937	23%	41,276	18%

Figure 2-7 highlights the distribution of land uses in the watershed portions of Dutchess and Putnam counties. (The Westchester portion of the watershed is not shown because, as noted in Chapter 1, NYCDEP does not expect to acquire any additional land in Westchester County under the Land Acquisition Program between 2010 and 2022.)

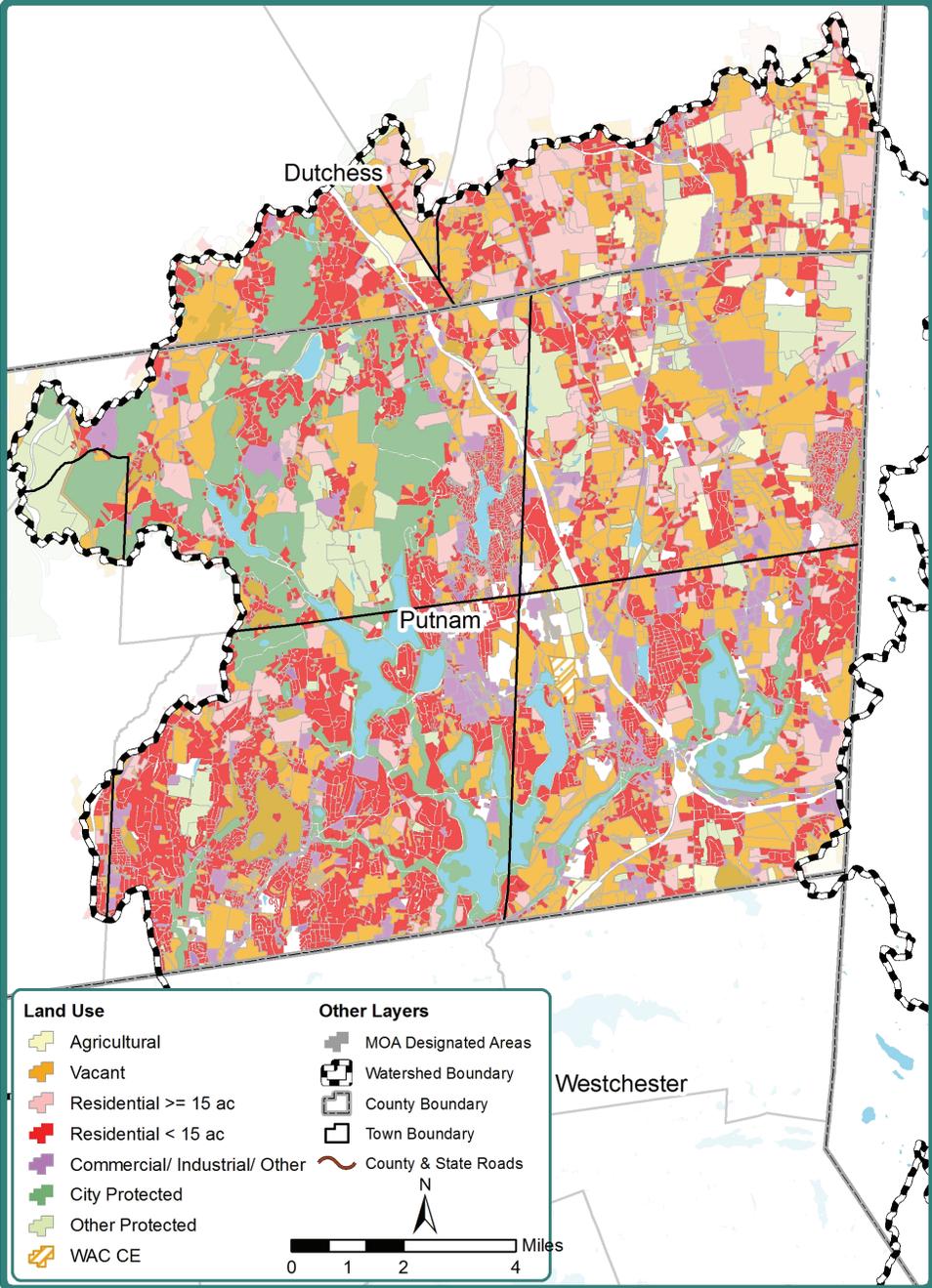
Residential uses account for 44 percent of all land in the watershed portion of Dutchess County, and privately-owned vacant land for 28 percent. Compared with other parts of the East-of-Hudson watershed, Dutchess County also includes a relatively large amount of land still in agricultural use – about 3,000 acres, or 15 percent of the total area of the watershed portion of the County. Relatively little watershed land in Dutchess County, in contrast, is devoted to commercial, industrial and community uses.

Residential uses account for one-third of all land in the watershed portion of Putnam County, and protected lands and privately-owned vacant land each account for 25 percent. Only a small portion of the County’s watershed land (1.2 percent) is agricultural, while 8.2 percent is used for commercial, industrial or community purposes.

The character of the East-of-Hudson communities in which NYCDEP expects to acquire land between 2010 and 2012 varies considerably.

- **East Fishkill** - For the past twenty years, East Fishkill has been one of the fastest-growing towns in the greater New York metropolitan area. However, only 16 percent of the town’s total area is within the watershed; and most of East Fishkill’s growth has been outside the watershed portion of the town. The watershed portion of the town is relatively rugged; the town’s comprehensive plan estimates that more than half of all land in this area has slopes of 25 percent or more. The watershed portion of the town includes a mix of residential and agricultural uses and protected land; there is relatively little commercial development in this part of the town.
- **Kent** - Although it has experienced substantial growth in recent decades, with an increase in population of about 10 percent between 1990 and 2008, Kent is still a primarily rural community, 84 percent of which is within the watershed. Most of Kent’s population (and most of its commercial activity) is concentrated on the eastern side of the town, especially in and around the hamlet of Lake Carmel. The rest of the town consists primarily of low-density residential areas, with clusters of higher-density development near the lakes that dot the area. About 43 percent of the watershed portion of the town consists of City, State or privately-protected land.

Figure 2-7: Dutchess and Putnam Counties Watershed Land Use Map



- *Carmel* – The Town of Carmel is the largest in Putnam County (measured by population), and has for the past two decades been among the region’s fastest-growing; between 1990 and 2008 its population grew by 21 percent. The town’s principal population centers – and centers of business activity – are the hamlets of Mahopac and Carmel. While the overall character of the town is suburban, there are substantial areas outside the two major hamlets that are still rural, with much lower population densities and lower levels of development.

FUTURE CONDITIONS WITHOUT THE PROPOSED ACTION

Since the 1980’s, the principal factors affecting land use in East-of-Hudson watershed towns have been residential and (to a lesser extent) commercial development. Development in both sectors is likely to continue during the next twelve years.

If the pace of residential development experienced since the 1990’s were to continue through 2022, approximately 6,800 additional units would be developed in the watershed towns of Dutchess and Putnam counties between 2010 and 2022. Based on the median parcel size per unit of new development in each of the towns since 2000, this would imply that more than 5,600 acres would be converted to residential use. In reality, the consumption of additional land for residential development is likely to be significantly less than 5,600 acres, for several reasons:

- Since the mid-2000’s, new residential development in the watershed towns of Dutchess and Putnam has declined sharply. While housing construction is likely to recover within the next few years, it is unlikely to return to the levels seen earlier in this decade. The estimate of 6,800 units is thus probably significantly overstated.
- Some new housing will be built on lots created through the subdivision of large, low-density residential parcels – increasing density but not increasing the amount of land devoted to residential use.
- In several towns, local planning and zoning policies now encourage higher-density, cluster-style development will reduce consumption of land for residential development.
- After two decades of vibrant growth, several towns are now giving greater priority to preservation of open space; this emphasis could constrain new development.

Finally, a significant portion of the total new development likely to occur between 2010 and 2022 – in Dutchess County, probably most of the new development – will occur outside the watershed portion of the towns.

Additional commercial development is likely between 2010 and 2022 – but it is likely to be concentrated primarily in areas that already serve as the towns’ commercial centers – such as Carmel in Putnam County and Hopewell Junction in Dutchess County.

Overall, the next twelve years are thus likely to see some new development – although at a slower pace than during the early to mid-2000’s – but relatively little change in overall land use patterns or the character of watershed communities.

FUTURE CONDITIONS WITH THE PROPOSED ACTION

Between 2010 and 2022, NYCDEP is projected to acquire a total of 1,517 acres in four East-of-Hudson watershed towns (East Fishkill, Kent, Putnam Valley and Carmel) either through purchase in fee simple or through conservation easements. This represents an increase of less than 3 percent in the total acreage of protected land within the boundaries of the East-of-Hudson watershed. Putting it another way – as a percentage of all land within the watershed, protected land in these four towns would increase from 22.6 to 23.3 percent. The acquired land would likely include a mix of privately-owned vacant land, the undeveloped portions of parcels now classified as low-density residential (that is, parcels of more than 15 acres) and possibly land formerly used for agricultural purposes.

While the new Water Supply Permit will cover the Croton System, it is not expected that NYCDEP would purchase any considerable amount of land. Any purchase would be a unique situation, most likely a parcel that had unusual water supply 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 significantly affect patterns of land use or the character of communities in the Croton System towns.

Overall, the small scale of projected acquisitions in the East-of-Hudson watershed under the Extended LAP means that the program is unlikely to have any significant impact on land use patterns in the region. Moreover, to the extent that the program helps to preserve what is seen in several towns as a limited supply of open space, and encourages concentration of new development in already-developed portions of the towns, it will be fully consistent with local efforts to maintain the character of the community.