

# **CHAPTER 1:**

## **PROJECT DESCRIPTION**

### **INTRODUCTION AND BACKGROUND**

The New York City Department of Environmental Protection (NYCDEP) proposes to continue the watershed Land Acquisition Program (LAP) in the three surface water watersheds that constitute the New York City surface water supply system through the year 2022; the three watersheds are the Delaware, Catskill, and Croton Watersheds. With the expiration of the existing Public Water Supply Permit (WSP) in January 2012, NYCDEP submitted an application for a new 10 year WSP on January 21, 2010, in accordance with the 2007 Filtration Avoidance Determination (FAD) issued by the U.S. Environmental Protection Agency (EPA), seeking permit approval prior to January 2012 to continue LAP through the year 2022. The future program that would be covered under the new WSP is referred to herein as the “Extended LAP.”

The goal of the New York City Department of Environmental Protection (NYCDEP) Land Acquisition Program (LAP) is to acquire fee simple and conservation easement interests to protect environmentally-sensitive land in the New York City (City) watershed as a part of the City’s overall Watershed Protection Program. LAP is a key component of the City’s efforts to continue to provide high quality drinking water without filtration of the Catskill-Delaware (Cat-Del) System,<sup>1</sup> which provides water to over 9 million residents of the City and nearby communities in New York State. Since its creation in the 1990s, LAP has protected, through acquisition, over 100,000 acres of land in the 1 million-acre Cat-Del System and over 2,000 acres of land in the Croton System. The land and easements acquired are to be maintained in perpetuity as undeveloped land for watershed protection. Together with lands protected by the State and other entities, these acquisitions have raised the level of permanently protected land in the Cat-Del System from 24 percent in 1997 to 34 percent today.

This Environmental Impact Statement (EIS) is being prepared to support the application for the WSP. It is anticipated that the future WSP would continue to authorize land acquisition in the three watersheds for watershed protection purposes, with a substantially greater emphasis on acquisitions in the Cat-Del System.

### **OVERVIEW OF THE NEW YORK CITY WATER SUPPLY SYSTEM**

The New York City water supply system supplies drinking water to almost half the population of the State of New York—eight million people in New York City and one million people in Westchester, Putnam, Orange, and Ulster Counties—plus the millions of commuters and tourists who visit the City throughout the year. The source of this superior water is a network of 19 reservoirs and three controlled lakes in a 1,969 square mile watershed that extends 125 miles to the north and west of New York City. Overall, the system has a total storage capacity of approximately 550 billion gallons. Consumption in the year 2000 averaged 1.2 billion gallons a

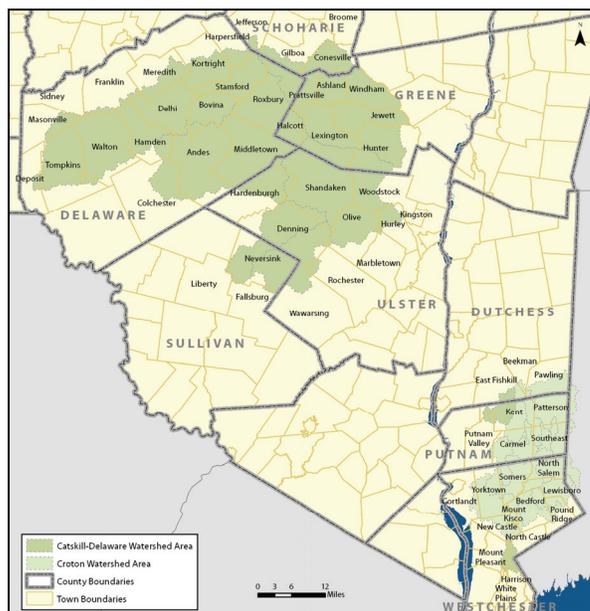
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<sup>1</sup> Although the Catskill watershed and Delaware watershed are distinct geographical features, they are functionally managed together and for regulatory purposes are considered a single integrated system.

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day. The Croton system, the City's first upstate water supply, provides about 10% of the daily consumption. The other 90% comes from the Cat-Del system (see Figure 1-1).

**Figure 1-1- Map of Catskill/Delaware and Croton Watersheds**



The Catskill system consists of two reservoirs—Schoharie and Ashokan—located west of the Hudson River in Ulster, Schoharie, Delaware, and Greene Counties. Water leaves the Schoharie Reservoir via the 18-mile Shandaken Tunnel, which empties into the Esopus Creek and then travels 22 miles through the Esopus to the Ashokan Reservoir. Water leaves Ashokan Reservoir via the 75-mile-long Catskill Aqueduct, which travels to the Kensico Reservoir in Westchester County. The Catskill system provides, on average, 40% of the City's daily water supply.

The Delaware system is comprised of four reservoirs west of the Hudson River: Cannonsville, Pepacton, and Neversink in the Delaware River basin, and Rondout in the Hudson River basin. The outflow from the first three reservoirs arrives in the Rondout via three separate tunnels; water then leaves Rondout and travels to West Branch Reservoir in Putnam County via the 90-mile Rondout/West Branch Tunnel. Water from West Branch then flows through the Delaware Aqueduct to the Kensico Reservoir. The Delaware system provides 50% of the City's daily demand. Because waters from the Catskill and Delaware watershed are commingled at Kensico Reservoir, they are frequently referred to as one system: the Catskill/Delaware system.

The Croton watershed is located entirely east of the Hudson River in Westchester, Putnam, and Dutchess Counties, with a small portion in the State of Connecticut. Historically, 10 percent of the City's average daily water demand is provided by the Croton system, although in times of drought it may supply significantly more water. The City is in process of constructing a water treatment plant to filter the Croton water supply. It should be noted that the Croton Falls and Cross River Reservoirs, although located in the Croton System, can provide water to the Delaware Aqueduct during periods of drought and would thus be considered part of the Cat-Del System under those conditions and consequently part of the 2002 FAD.

## **PURPOSE AND NEED**

The mission of the Land Acquisition Program (LAP) is to acquire fee simple and conservation easement interests to protect environmentally-sensitive land in the New York City (City) watershed as a part of the City's overall Watershed Protection Program. LAP is a key component of the City's efforts to increase watershed protection and avoid filtration of the Cat-Del System, which provides water to over 9 million residents of the City and nearby communities in New York State. Land acquisition is an anti-degradation strategy, which seeks to avoid potential adverse water quality impacts associated with development and other land uses. The Extended LAP is needed to continue to support FAD requirements and to focus additional attention to basins and sub-basins with a low percentage of protected lands. LAP acquisition criteria are evolving to meet this objective.

## **PROGRAM TO DATE**

The LAP grew out of the City's response to the Federal Safe Drinking Water Act Amendments (1986) and Surface Water Treatment Rule (SWTR, 1989). As a result of an increased awareness of the threat posed by micro-organisms in unfiltered surface water systems, the SWTR required such public water supplies to either filter their supply or meet specific "filtration avoidance criteria." The City, through its Department of Environmental Protection, sought to meet those criteria and avoid filtration through the development of a comprehensive Watershed Protection Plan for the Cat-Del System.

Under the SWTR, an applicant for filtration avoidance needs to "demonstrate through ownership and/or written agreements with landowners within the watershed that it can control all human activities which may have an adverse impact on the microbiological quality of the source water." Increased ownership of watershed lands is a key component of the City's ability to meet this condition. Prior to 1997, the City owned approximately 35,500 acres of land in the Cat-Del System (excluding reservoirs), and the State of New York owned another 202,000 acres, for a total protected land base of approximately 24 percent of the watershed land area. Since the early 1990s, the City has sought to increase those percentages through a robust land acquisition program.

NYCDEP initially sought to establish a land acquisition program in the Cat-Del System as a condition of the first FAD, issued by the EPA in 1993. In August 1993, the City applied for a Water Supply Permit (WSP) from the New York State Department of Environmental Conservation (NYSDEC). That application, and the City's concurrent efforts to promulgate new Watershed Rules and Regulations with the New York State Department of Health (NYSDOH), met strong resistance from municipalities in the watershed. While many residents in these upstate communities supported such land protection efforts for various reasons, many also viewed these efforts as a threat to local economic development.

Over the ensuing three and a half years, the City, Federal and State regulators, local governments and environmental organizations engaged in a variety of efforts to resolve these issues, which resulted in a comprehensive New York City Watershed Memorandum of Agreement (MOA) in January 1997. Under this landmark agreement, the City agreed to undertake a wide array of programs to protect water quality while also supporting local economic development. The MOA called on the City to dedicate up to \$300 million for a land acquisition program in the Cat-Del System, and identified specific program parameters and acquisition procedures, as detailed below in Section II.B.

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In January 1997, the City received a WSP issued by NYSDEC, and the first real estate closing under LAP occurred in October, 1997. The WSP was issued for a ten-year period (through January 2007), with a five-year renewal option (through January 2012) that was exercised. Since 1997, EPA has issued several FADs that have continued to place a strong emphasis on land acquisition. In 2007, EPA, in collaboration with DOH and NYSDEC, issued a ten-year FAD that required the City to dedicate an additional \$241 million for land acquisition in the Cat-Del System. The 2007 FAD also required the City to apply for a new WSP in January 2010. As a prelude to that permit application, the FAD called for a “long-term land acquisition strategy...for the period from 2012 to 2022” to be submitted by September 30, 2009.

With the expiration of the existing WSP in January 2012, NYCDEP submitted an application for a new WSP in January 2010 with permit approval requested prior to January 2012 in order to continue LAP from January 2012 through 2022. This Environmental Impact Statement (EIS) is being conducted in order to support the application for the WSP. It is anticipated that the future WSP would continue to authorize land acquisition in the three watersheds for watershed protection purposes, with an emphasis on acquisitions in the Cat-Del System.

Under the MOA, the City was required to solicit at least 355,050 acres of land in the Cat-Del System, with specific acreage requirements by basin and priority area. These solicitation requirements were met by 2006 and the City agreed to conduct additional solicitation and re-solicitation on an annual basis as a result of the 2002 and 2007 FADs. The City’s solicitation requirements and results in the Cat-Del System are summarized in Table 1-1.<sup>2</sup> For the purposes of the DEIS, July 2009 data referenced in the September 2009 Long-Term Plan, will serve as the baseline for analysis.

**Table 1-1**

**Solicitation and Acquisition Status by Basin**  
*as of July, 2009*

District	Basin	MOA Solicitation		Acres Acquired (LAP Fee + CE)
		Requirement	Acres Solicited	
EOH	Kensico	950	1,071	207
	West Branch	14,250	14,676	8,602
	<b>EOH Sub-total</b>	<b>15,200</b>	<b>15,747</b>	<b>8,809</b>
WOH	Ashokan	45,530	46,417	11,460
	Rondout	29,052	30,126	6,583
	Neversink	12,910	21,891	2,974
	Schoharie	68,700	95,491	19,000
	Pepacton	78,630	122,016	18,861
	Cannonsville	105,028	143,820	13,065
	<b>WOH Sub-total</b>	<b>339,850</b>	<b>459,761</b>	<b>71,943</b>
<b>Cat-Del Totals</b>		<b>355,050</b>	<b>475,508</b>	<b>80,752</b>

<sup>2</sup> Since virtually all eligible lands in Priority Areas (PA) 1 and 2 were solicited while only 75% of lands in Priority 3 and 50% of Priority 4 had been solicited as of 2006, almost all newly solicited lands thereafter derived from the remaining unsolicited lands in PA’s 3 and 4. These two PAs are found in the Cannonsville, Pepacton, Schoharie, and Neversink Basins.

In addition to the lands solicited and acquired directly by the City (as shown in Table 1-1), the City funds the acquisition of conservation easements by the Watershed Agricultural Council (WAC) on agricultural land. That program (see below under “Rights Acquired”) resulted in the acquisition of an additional 16,954 acres of farm easements through July, 2009, which acreage is not shown above – nor are acres of farms solicited by WAC.

### **REAL ESTATE METHODS AND PROCEDURES**

LAP utilizes a number of methods and procedures that were devised early in the program’s development and are guided by the principles and restrictions set forth in the MOA and WSP. These methods and procedures govern the way the City contacts landowners, how appraisals are conducted, the real property rights to be acquired, provisions for public recreational access on lands acquired in fee simple, and how the City pays property taxes on property rights acquired. The City has a strong record of compliance with its MOA, FAD and WSP obligations. The key components of such compliance are as follows:

#### **Willing Buyer / Willing Seller (MOA Paragraph 60/ 1997 WSP ¶ 5)**

Landowners and the City must both enter into a proposed transaction on a strictly voluntary basis. Landowners are under no obligation to sell until and unless they sign a contract of sale.

#### **Fair Market Value (MOA 61/ 1997 WSP ¶ 13)**

Land and easements are appraised at fair market value by independent, certified NY State Appraisers commissioned by the City. Landowners have the right to present their own appraisals, made by certified appraisers, which must be considered by the City’s appraiser. The City's offer, however, is the value determined by its appraisal, after consideration of any such alternate appraisal. That is, the City does not negotiate price with landowners, but rather makes an offer of the appraised amount, which the landowner is free to accept or reject. Only under very limited circumstances (mortgage or tax foreclosure, legal judgment) can the City acquire land at below fair market value.

#### **Solicitation (MOA 60, 64, 65 and Attachment Z)**

The City’s obligation to diligently pursue acquisition is defined in Attachment Z of the MOA. Although the City retains the flexibility to decline to appraise a property upon inspection, the City is obligated (except in very limited circumstances and subject to regulator approval) to pursue acquisition once an appraisal is ordered. Since 1997 under the MOA (and since 2002 pursuant to the FAD), the City has been required to meet a series of annual targets for landowner solicitation and resolicitation. Hereafter, the term “solicitation” includes both “original solicitation” in which the City makes the initial outreach to pursue acquisition of a property, and “re-solicitation,” in which the City makes subsequent attempts to contact the same or subsequent landowner of a given property, after being unable to make contact or reach agreement at the point of original solicitation.

#### *Rights Acquired*

Through LAP the City can acquire, or fund the acquisition of, three distinct types of property interests:

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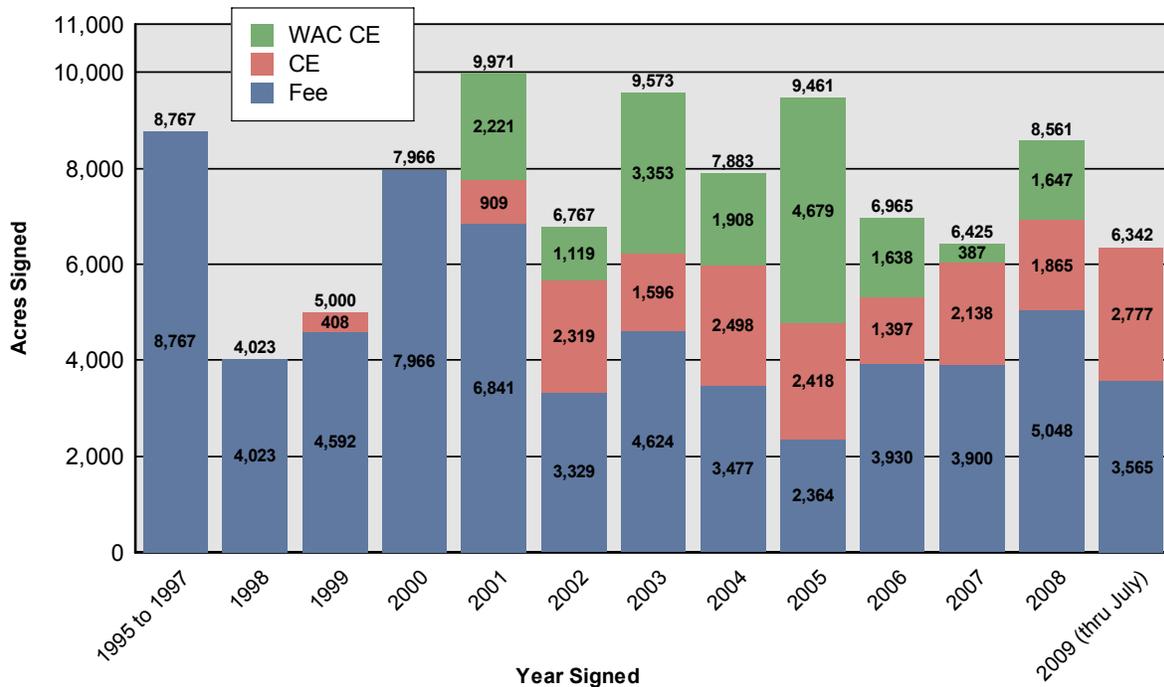
**Fee Simple** – The City acquires land outright. This is the City’s preferred acquisition method. Fee simple acquisition results in the highest level of management, allows the City to consider recreational, natural resource management and other uses on the property acquired, and makes the most efficient use of City staff resources.

**Watershed Conservation Easements** – In cases where landowners want to retain ownership and exclusive use of their land, conservation easements (“CEs”) allow protection through the acquisition of perpetual deeded rights. Although initial acquisition costs are lower than for fee simple purchases, CEs involve significantly higher long-term costs for monitoring and potential enforcement of deed provisions. CE purchases are pursued on larger properties whose owners are not interested in selling fee simple interest.

**Watershed Agricultural Easements** – The City also funds the acquisition of CEs on farms by the Watershed Agricultural Council (WAC). These CEs, which involve the farmer’s implementation of a Whole Farm Plan that governs best management practices for agricultural uses, allow for a diversity of farm-related uses but preclude most other types of development.

A summary of acres acquired by Real Estate type and year is shown in Figure 1- 2 below.

**Figure 1-2-Acres Acquired by Real Estate Type and Year**



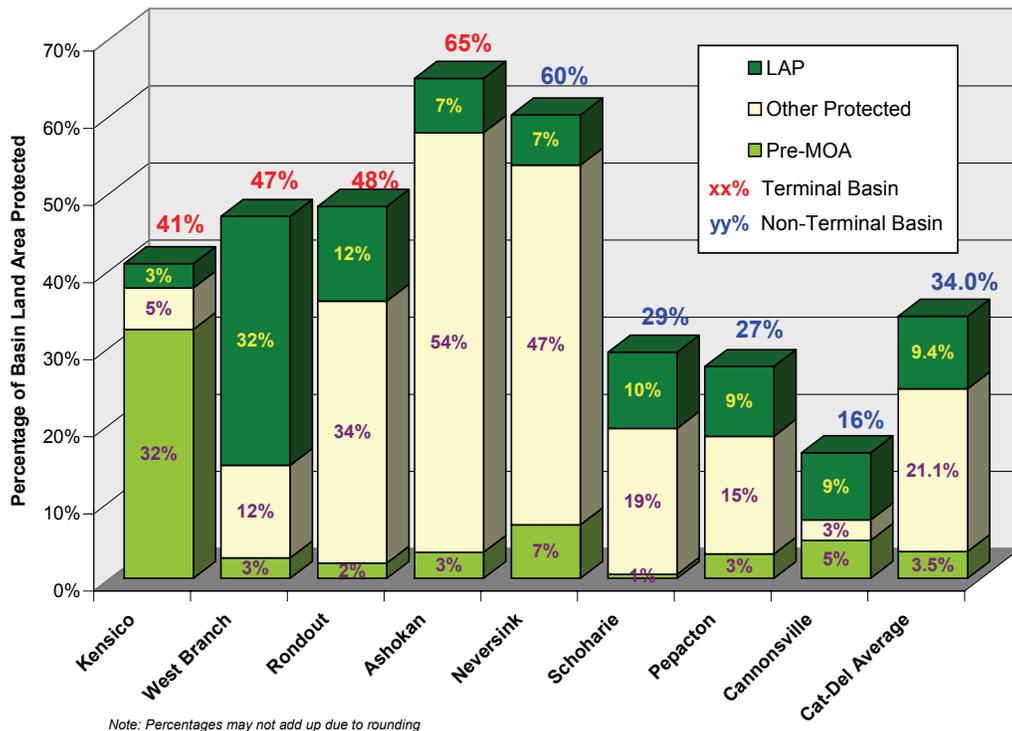
**Property Taxes (MOA 79 and 80/ WSP ¶ 18-20)**

The City pays property taxes on all land and CEs acquired under LAP, including any lands under watershed agricultural CEs that are not agriculturally-exempt. The City pays taxes on eased properties in proportion to the value of the easement acquired as set forth in NYS Real Property Tax Law. Under the MOA, the City has committed not to challenge tax assessments on such lands absent specified circumstances not anticipated to occur.

**PLANNING PRINCIPLES**

The Cat-Del watershed spans just over 1 million acres draining into nine reservoirs in eight upstate counties. Figure 1-3 shows protected land as a percentage of land area by basin.

**Figure 1-3: Protected Land as a Percentage of Basin Land Area**



The identification of the most important parcels for acquisition within this vast watershed is an ongoing process based on a number of geographic, topographic, cost and real estate factors. LAP first prioritizes property for solicitation on the basis of its location within the water supply system, followed by site-specific characteristics. These principles are embodied in the Priority Area and Natural Features Criteria provisions of the MOA as discussed below.

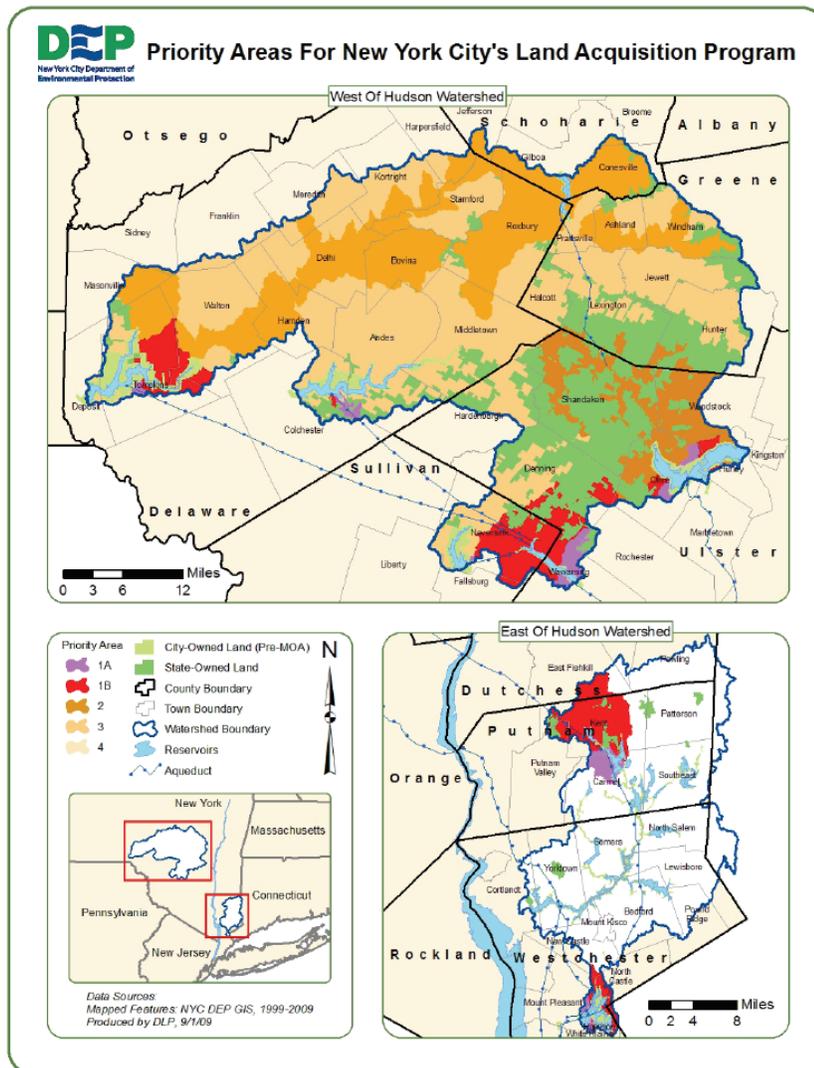
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### Priority Areas

The basins and sub-basins comprising the Cat-Del System were assigned to Priority Areas (as depicted in Figure 1-4) as follows:

- **Priority 1A** – Sub-basins within 60-day travel time to distribution located near reservoir intakes;
- **Priority 1B** – All other sub-basins within 60-day travel time to distribution;
- **Priority 2** – All remaining sub-basins in terminal reservoir basins;
- **Priority 3** – Sub-basins in non-terminal reservoir basins with existing water quality problems; and
- **Priority 4** – All other sub-basins in non-terminal reservoir basins.

Figure 1-4: Cat Del System Priority Areas



The MOA required that the City solicit at least 355,050 acres in accordance with a schedule that reflected LAP's priorities both in timing (higher priority areas were solicited first) and in percentage of eligible lands solicited (ranging from 95 percent of eligible lands in Priority 1A and 1B to 50 percent of eligible lands in Priority 4).

Following the new funding commitments contained in the 2007 FAD, the City's 2008 to 2010 Solicitation Plan called for an additional 90,000 acres of new solicitation. These additional acres were solicited primarily in Priority Areas 3 and 4 (since Priority 1 and 2 had already been almost entirely solicited), effectively raising the level of solicitation in those Priority Areas above the minimum levels specified in the MOA.

### **Natural Features Criteria**

Natural Features Criteria as defined in MOA 63, establish a set of hydrologic and topographic features, one or more of which must be present on a property in order to qualify for acquisition in Priority Areas 2, 3 or 4. (In priority areas 1A and 1B, natural features criteria are not required.) LAP uses the NYCDEP Geographic Information System (GIS) to overlay these features onto digitized tax parcels as part of the parcel evaluation process.

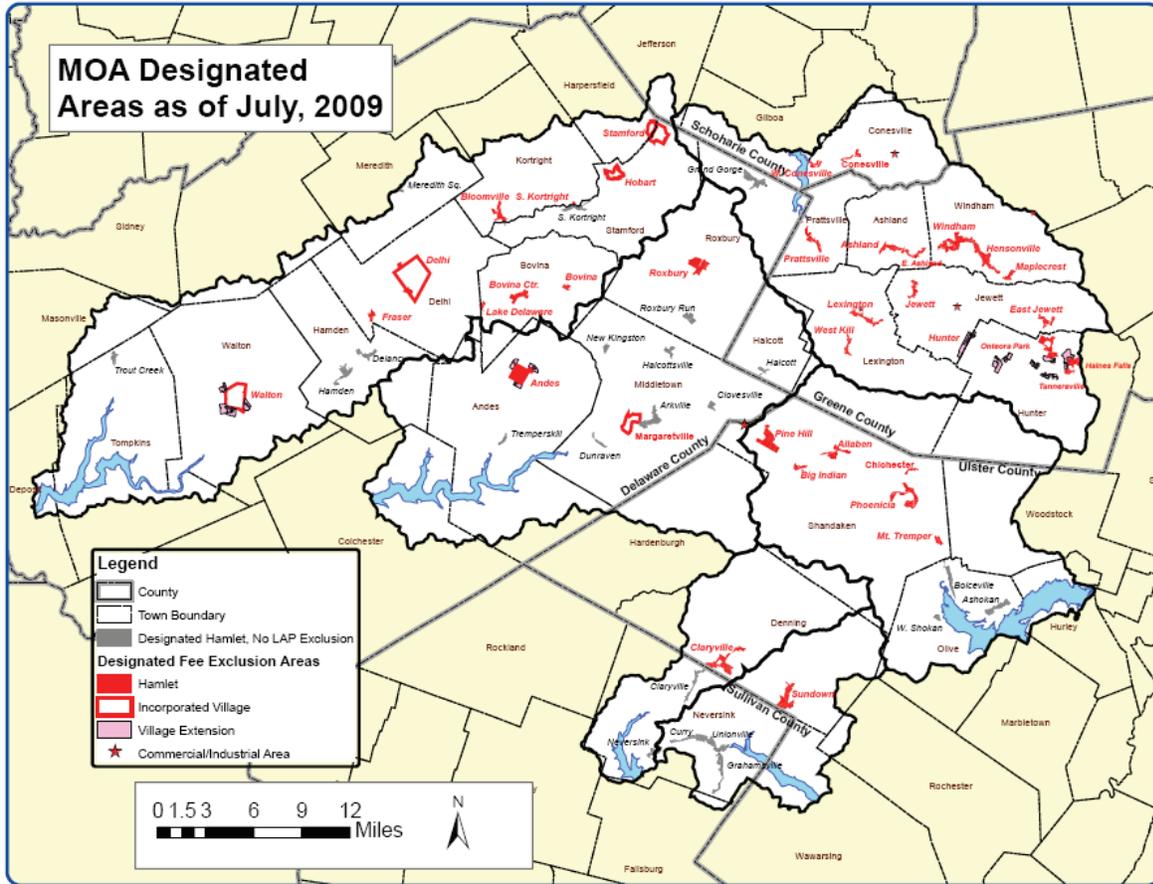
Currently Paragraph 63 of the Watershed MOA establishes criteria that parcels must meet in order to be eligible for acquisition under the LAP, including natural features criteria applicable to parcels in Priority Areas 2, 3, and 4. There are two main categories of natural features criteria.

- 1) Surface water features: Parcels must
  - be at least partially located within 1,000 feet of a reservoir, or
  - be at least partially located within the 100-year flood plain, or
  - be at least partially located within 300 feet of a watercourse, as defined in the Watershed Regulations, or
  - contain in whole or in part a federal jurisdiction wetland greater than five (5) acres or a NYSDEC mapped wetland, or
- 2) Slopes: Parcels must contain ground slopes greater than fifteen percent (15%).

### **Hamlet Designations**

Under the MOA, West-of-Hudson municipalities had the opportunity to identify Designated Areas, including villages, hamlets, village extension areas and industrial/commercial areas, and separately to determine, by resolution, whether to exclude the City's acquisition of property in through LAP in fee simple in these areas. The intent of the Designated Areas was to "...provide reasonable opportunities for growth in and around existing population centers." The designated hamlet areas are shown in Figure 1-5.

Figure 1-5: Existing Designated Hamlets



**Flood Buyout**

The Federal Emergency Management Agency (FEMA) runs a Hazard Mitigation Grant Program (HGMP) which provides funding to state and local governments to reduce future costs associated with natural disasters. After parts of Delaware County experienced significant flooding in 1996, the County asked New York City to participate in a flood buyout program funded through HGMP. Through this program, homeowners in flood-prone areas (primarily in the Villages of Margaretville and Fleischmanns) were able to sell their houses at pre-flood values. The homes acquired were demolished and the land is to be maintained in a natural state for flood abatement. Through LAP, the City contributed to the required 25 percent local match under HGMP to pay for the land component of each acquisition, as well as associated soft costs. As a result of this program, LAP acquired 28 parcels comprising a total of 14 acres of land.

In the Extended LAP, NYCDEP would be open to participating in future flood buyout projects if requested by a county or local government.

**Use of Water Supply Lands**

NYCDEP allows a number of uses on LAP acquired land where consistent with water quality and public safety. Approximately 59,000 acres since 1997 have been opened up to recreational

uses such as fishing, hiking, snowshoeing, cross country skiing, bird watching, educational programs, nature study and interpretation, and hunting. In 2008, NYCDEP expanded recreational uses of West-of-Hudson (WOH) lands to include Public Access Areas (PAAs) in which no NYCDEP access permits are required. The majority of WOH lands that are not adjacent to reservoirs are being converted to PAAs and this is the default designation for newly acquired lands. Also in 2008, NYCDEP eliminated the use of the NYCDEP Hunt tag in an attempt to make it easier for the public to access NYCDEP lands. Furthermore, NYCDEP is developing a comprehensive forest inventory and management plan to address the need for proactive forest management to maintain a healthy forest ecosystem. Since 1997, NYCDEP has opened 1,722 acres City-owned land to forestry.

NYCDEP allows other low-intensity uses of its land including certain agricultural activities. The public may submit proposals and / or bids to conduct agricultural activities on City lands that have had a history of such use. For example, farmers may propose to harvest hay, plant row crops, graze livestock and tap sugar maple trees for maple sap. Proposers / bidders must agree to conduct activities in a manner consistent with water quality protection and as approved by NYCDEP. NYCDEP currently has over 30 active projects. Bluestone mining and forestry can be allowed on eased properties, subject to NYCDEP plan approval.

Most of the uses allowed on NYCDEP lands are subject to separate site specific approvals of land use plans and, in certain instances stormwater pollution prevention plan approvals and environmental review, where applicable. Recreational uses are allowed pursuant to “NYCDEP Rules for the Recreational Use of Water Supply lands and Waters” and regulations that underwent SEQRA review (Negative Declaration dated July 2008). Because these uses are not subject to further review and approval, they are reviewed in this EIS. Agricultural activities are normally undertaken as a continuation of a pre-existing agricultural use which occurred prior to NYCDEP’s acquisition, whether on NYCDEP-owned land, NYCDEP-owned easements, or WAC easements. NYCDEP prepares sustainable forestry project plans for land it owns in the watershed. These plans are subject to SEQRA review before forest improvement projects are permitted. Bluestone mining is currently only allowed on conservation easements, with NYCDEP approvals of mining plans submitted by the landowner; any operation greater than an acre is subject to environmental review under SEQRA as part of obtaining a stormwater permit pursuant to NYCDEP Watershed Rules and Regulations. Smaller sites would have limited impacts. The number of such operations on NYCDEP properties or easements would be small and their location is not reasonably foreseeable. NYCDEP’s requirement to review and approve mining plans does not replace any regulatory oversight required by NYS, which requirements must still be met by the owner of the eased property if thresholds exceed those in NYS regulations.

### **EXTENDED LAND ACQUISITION PROGRAM FOR 2012-2022**

The Extended LAP would continue to use the same basic real estate methods described above, which have resulted in the acquisition by LAP and WAC of over 96,000 acres as of July, 2009<sup>3</sup>. The Extended LAP program for the period from 2012 to 2022 will refine solicitation activity to focus more attention on certain basins and sub-basins. As described in the September 2009 Long-Term Plan, the prioritization of solicitations will be based on some combination of their

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<sup>3</sup> See Table 1-1.

location within the system as a whole, the basin or sub-basin's existing level of protection, and a basin's anticipated contribution to future water supply including:

- Non-terminal reservoir basins with less than 30 percent protected lands;
- Specific sub-basins with a relatively low percentage of protected lands; and
- Reservoir basins that are expected to provide larger contributions to future water supply.

Using this strategy, Areas of Focus have been developed to identify basins and sub-basins which warrant additional attention for solicitation based on current levels of protection, success rates, contribution to water supply, and other factors. Parcel selection would include procedures to maximize the water quality benefit of acquisitions.

Many local communities have consistently expressed how important recreational access, forestry and agriculture are to their local economies, which have historically been connected to these land-dependent activities. Under the MOA, the City committed to consider recreational access for lands acquired in fee simple. Since 1997, NYCDEP has expanded the use of City fee-owned lands that support local economic vitality while maintaining its obligation to protect water quality. Increased recreational access, at times in partnership with NYSDEC, has been at the forefront of these changes.

## **PLANNING PRINCIPLES**

### **Areas of Focus**

Areas of Focus have been developed to identify basins and sub-basins which warrant additional attention for solicitation based on current levels of protection, success rates, contribution to water supply and other factors:

**1. Less-Protected Reservoir Basins** - The Schoharie, Pepacton and Cannonsville basins are the largest basins in the Cat-Del System, together comprising some 720,000 acres or over 70 percent of the system land area. They contain about 75 percent of the remaining solicited land. For this reason, any acquisition strategy from 2012 to 2022 would necessarily be focused on these three basins. The fact that these three non-terminal basins also contain the lowest percentage of protected lands provides further basis for this focus.

**2. Critical Sub-Basins** - Each reservoir basin is comprised of discrete sub-basins whose location, topography and land use patterns vary in ways that greatly influence the water quality entering and leaving each reservoir. LAP has identified several categories of sub-basins whose characteristics merit heightened focus:

***Sub-Basins Near Intake*** - Sub-basins which drain directly into a reservoir near intakes<sup>4</sup> are particularly sensitive because an inflow of pollutants from even a small sub-basin at these locations can have a large impact on the overall quality of water leaving the reservoir. This factor, identified by the City through study of the Malcolm

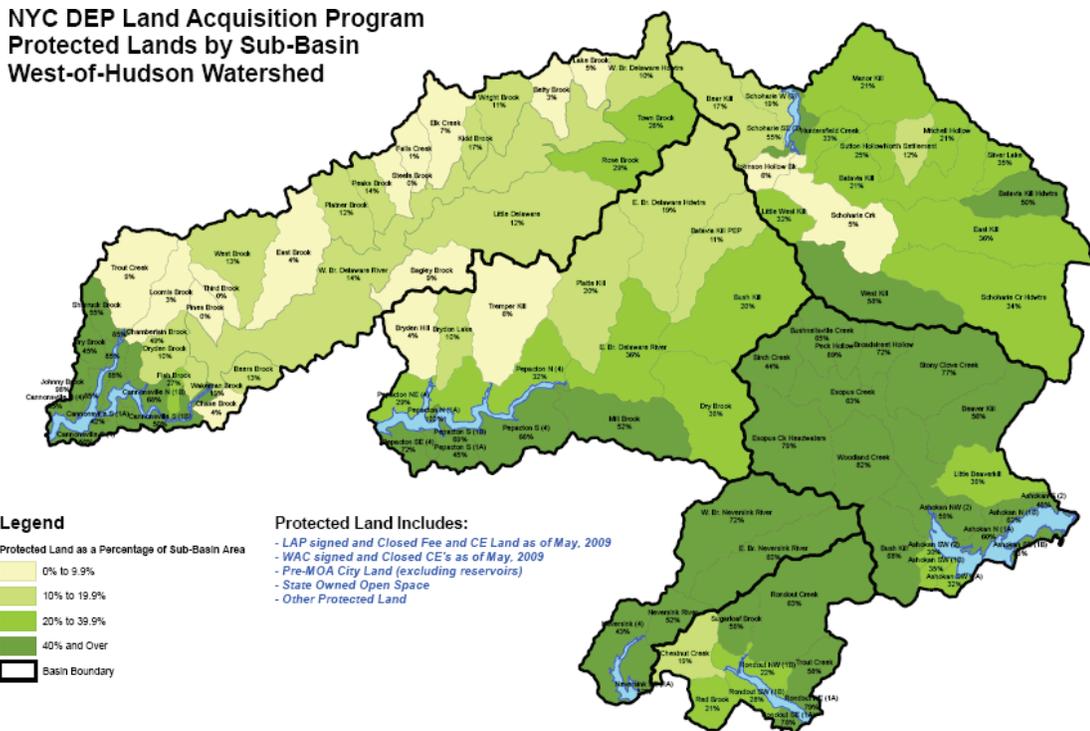
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<sup>4</sup> *Intakes* are the point where water leaves the reservoir and enters an aqueduct for transport towards distribution.

Brook sub-basin at the Kensico Reservoir intake, was reflected in the Priority Area 1A designations for basins within 60-day travel time. LAP plans to extend this concept to specific sub-basins in Priority Areas 3 and 4.

**Less-Protected Sub-Basins** – While basin-wide protection levels provide a useful tool to evaluate system-wide progress, the distribution of protected lands on a sub-basin level reveals patterns masked at the basin level. As shown in Figure 1-4 Sub-basins with less than 20 percent protected lands are primarily located in the Pepacton and Cannonsville Basins. In cases where these sub-basins are also located near intakes (such as the Tremper Kill, Bryden Hill and Bryden Lake sub-basins north of the Pepacton Reservoir), protection efforts are particularly critical.

Figure 1-6 Percent Protected Lands by Sub-Basin



**3. Contribution to Future Supply** - The LAP Priority Areas emphasize travel time to distribution as a primary concern for water quality protection. The success of LAP to date in increasing protected lands in Priority Areas 1 and 2 allows additional factors going forward to prioritize future acquisitions to build on this success. One such factor is the proportion of source water originating from each reservoir basin.

Long-term planning by NYCDEP has identified several factors - including improved water quality in the Cannonsville Basin, the pending completion of the Croton Water Treatment Plant, and turbidity in the Catskill System - which may result in supply shifts that should be

taken into consideration in planning LAP's solicitation strategy. The Ashokan and Pepacton basins would continue to provide the most supply, with increases projected for Rondout, Cannonsville and the Ashokan basin contributions

**4. Develop strategies to promote the wise use of acquisition funds over the long-term -**

Acquisition costs vary tremendously within the Cat-Del system. Further, the high cost areas (Kensico, West Branch and Ashokan, in descending order) correspond in large part to the basins that now have the highest percentage of protected lands. Therefore the incremental protection value of acres acquired in the less-protected basins WOH is higher than the value of acquiring acreage in more expensive, highly protected basins. For these reasons, LAP's parcel selection strategy will more directly consider cost and levels of protection.

In practice, three of these Areas of Focus (Less-Protected Basins, Critical Sub-Basins and Contribution to Future Supply) overlap to some degree. For example, the sub-basins north of Pepacton Reservoir qualify in all three categories and therefore would be Areas of "High" Focus, while certain sub-basins in Schoharie Basin that already have a high percentage of protected land only qualify on the basis of one factor (Less-Protected Basins) and would receive less focus.

**Other Solicitation Criteria**

NYCDEP expects to continue to resolicit most of the 375,000 acres of solicited land not yet acquired. The vast majority of these solicited parcels are comprised of vacant land over 20 acres in size or residential parcels over 30 acres with slope or surface water features that merit protection for water quality protection. However some marginal parcels previously solicited would not be actively pursued, and some new lands would be solicited, according to the criteria detailed below:

**1. Parcels Adjoining Previously-Acquired Land** – Parcels adjoining lands acquired in fee simple should continue to be identified and solicited to support multiple program objectives, including management efficiency, increased utility for working landscape partnerships, and enhanced recreational opportunities. The importance of these program objectives will result in the solicitation of some connecting parcels that would not otherwise merit strong consideration based solely on size or water quality criteria. The identification of these parcels will be continually updated as new acquisitions occur.

**2. Smaller Vacant Parcels in Proximity to Surface Water Features** – The Cat-Del System includes over 1,000 vacant parcels of between 10 and 20 acres, taken alone or in small assemblages. On one hand, many of these lots lack the steep slopes or proximity to streams associated with significant water quality impacts. However, other small lots, especially those in proximity to streams, merit protection. Program experience since 1997 has also shown that the management burden of smaller fee lots is relatively minimal, particularly compared with CEs. For these reasons, LAP would identify more small lots near water for solicitation, particularly in Areas of Focus. This strategy would enable LAP to maximize the water quality impact of its acquisitions.

**3. Conservation Easements** – In contrast to fee simple acquisitions, CEs require a significant ongoing dedication of resources for annual monitoring and occasional enforcement. Despite these long-term costs, CEs provide a unique tool to protect lands

(particularly those with residences) whose owners are not interested in selling their land outright.

Size, natural features, development potential and location would be the primary programmatic criteria used to make decisions to pursue a particular CE, but other factors would continue to be considered although in ways that may vary from past practice depending on the level of protection in a given area. These factors include the size and configuration of tax parcels comprising the CE, the presence or absence of other CEs on adjoining or nearby lands, and an analysis of the landowner's stated plans for future use of the property.

- **Properties in well-protected Basins and Sub-Basins** – In locations where protected lands already comprise a high percentage of the basin and/or sub-basin area, potential CE's between 75 and 100 acres will be evaluated to ensure that their development potential and proximity to surface water features merit proceeding with the acquisition;
- **Properties in Areas of Focus** – LAP will develop guidelines to acquire smaller CEs (under 75 acres) in less-protected basins and sub-basins, particularly where land use patterns result in a higher degree of landowner interest in CEs in comparison to fee simple acquisition. In **Areas of High Focus**, such as the sub-basins north of the Pepacton Reservoir in Andes and Colchester, smaller parcels will be more likely to be pursued than in other areas; and
- **Compelling Properties** – LAP will continue to pursue CEs on properties over 100 acres with significant development potential and proximity to surface water throughout the watershed.

### **Program Changes Currently Under Negotiation**

As a result of ongoing negotiations between the City and watershed stakeholders, several components of the Extended LAP are under consideration. These potential changes have yet to be finalized. These components are discussed below, although it must be noted that the final form of the Water Supply Permit may include modified versions of these components or exclude some or all of them altogether. Because of this, the EIS considers a range of possible scenarios as described below.

#### *Hamlet Expansion Areas*

The City has engaged in ongoing negotiations with the Coalition of Watershed Towns (CWT), Delaware County, NYSDEC, and other stakeholders concerning proposed modifications of the 1997 Designated Areas (see page 1-10 above). Under MOA Paragraph 68, West-of-Hudson municipalities were given the opportunity in 1997 to designate areas, including villages, hamlets, village extension areas and industrial/commercial areas, and to determine, by resolution, whether to exclude the City's acquisition under LAP of property in fee simple in these areas. The intent of these "Designated Areas" was to "...provide reasonable opportunities for growth in and around existing population centers."

The ongoing negotiations have focused on the interest of some West-of-Hudson towns in expanding the geographic extent the Designated Areas beyond those delineated in 1997. The stakeholders have also discussed changes to the rules pertaining to LAP acquisition in the Designated Areas. In particular, in 2008, the CWT requested and the City tentatively agreed that each WOH town could identify additional "Expansion Areas" for future growth. The

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stakeholders have agreed that such expansion areas are appropriate given the relatively small size of the MOA Designated Areas (which are already largely developed) and the increased scope of LAP. In addition, the City and the CWT have tentatively agreed, subject to acceptance by the regulatory agencies, that municipalities could elect to make both the current designated hamlet areas and these Expansion Areas off limits to all LAP acquisitions (including City and WAC conservation easements), not just to fee simple purchases as was previously the case.

To date, seventeen watershed towns have proposed Expansion Areas totaling about 27,500 acres (See Table 1-2). The City, together with the State, EPA, and several environmental groups have worked diligently with the CWT, the watershed counties, and individual towns to balance community concerns over opportunities for future development with water quality protection needs in determining the appropriate scope of each town's proposal. Currently the stakeholders have agreed on Expansion Areas for sixteen towns which have proposed 24,180 acres, while discussion is continuing on one town, Walton, whose current proposal is for 3,269 acres. If the hamlets are expanded as proposed, and all of the affected municipalities elect to preclude LAP acquisition in them, approximately 16,460 acres of previously solicited lands would no longer be eligible for acquisition.

Because the expanded hamlet boundaries have been largely resolved with input from the CWT and the individual towns, they are included in the Proposed Action. However, since agreement has not been reached with the stakeholders, including NYSDEC, on all the Extended LAP elements, there is a possibility that these expanded areas will not be part of the Extended LAP. Therefore, for purposes of the DEIS, a No Hamlet Expansion Alternative is also evaluated.

The hamlet designation and expansion areas would be consistent with and reinforced by a number of other existing NYCDEP watershed programs. The proposed expanded hamlets and other existing NYCDEP programs recognize the water quality benefits of encouraging development in areas where it is already concentrated -- and where there is infrastructure to support it. Similarly, they acknowledge the reality that historically, communities have often developed along streams, and therefore that growth within these areas may require construction within the limiting distances where impervious surfaces are generally prohibited under the Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources (Watershed Regulations). These Watershed Regulations encourage growth within villages and designated hamlets by providing relief in those areas from the general prohibition against new impervious surfaces within 100 feet of watercourses and wetlands so long as the applicant seeks and obtains NYCDEP approval of a stormwater pollution prevention plan (SPPP). In the recent amendments to the Watershed Regulations, which became effective on April 4, 2010, NYCDEP amended the definition of "hamlet" to ensure that the expanded hamlets will qualify for this regulatory relief. To the extent that SPPPs are required under the Watershed Regulations where they would not otherwise be required under State or federal law, or to the extent that the Watershed Regulations impose more stringent requirements for SPPPs, the City pays the costs for designing, implementing, and maintaining stormwater control measures under the MOA, through the Future Stormwater Program managed by the Catskill Watershed Corp.

Table 1-2 Town Hamlet Expansion Areas

NYC DEP Land Acquisition Program

Status of Town Hamlet Expansion Area Proposals as of March 10, 2010

Status of Expansion Proposal	Town	Town Watershed Acres	Existing Designated Area	2008 Proposed Expansion Area	Previous Revised Town Proposal	Current Proposal
No Expansion Proposal Made (15 towns)	Andes	65,748	1,052			
	Bovina	28,427	392			
	Colchester	18,670	n.a.			
	Denning	56,447	1,107			
	Franklin	5,888	n.a.			
	Gilboa	10,840	n.a.			
	Halcott	14,375	69			
	Hardenburgh	22,675	n.a.			
	Hurley	8,518	n.a.			
	Neversink	43,804	1,197			
	Prattsville	13,851	207			
	Stamford	31,120	1,331			
	Tompkins	45,024	109			
	Wawarsing	10,607	n.a.			
	Woodstock	22,346	n.a.			
<b>Sub-Total</b>			<b>5,464</b>			
Acceptable Town-wide Proposal	Shandaken	78,875	1,561			
<b>Sub-Total</b>			<b>1,561</b>			
Town Proposal Acceptable to All Parties (16 towns)	Meredith	15,395	73	105		71
	Masonville	8,311	n.a.	150		150
	Sidney	601	n.a.	219		219
	Middletown	62,244	1,734	296		296
	Lexington	51,274	362	375		375
	Roxbury	56,051	957	443		440
	Harpersfield	7,076	405	1,331		1,295
	Olive	29,252	547	3,303	2,431	1,333
	Conesville	21,590	275		4,290	1,566
	Ashland	15,987	362	4,004	1,985	1,684
	Jewett	32,087	652	4,769	2,304	2,015
	Hamden	33,517	420	4,958	2,613	2,439
	Delhi	41,343	2,346	4,450	3,422	2,759
	Hunter	43,174	3,251	4,460	3,529	2,891
	Windham	28,986	1,148	13,458	3,606	2,794
	Kortright	25,047	250	7,913	6,377	3,853
<b>Sub-Total</b>		<b>12,782</b>	<b>50,234</b>			<b>24,180</b>
Town Proposal Questioned by One of more Parties (1 town)	Walton	55,991	1,503	11,194	3,887	3,269
<b>Sub-Total</b>		<b>1,503</b>	<b>11,194</b>			<b>3,269</b>

Similarly, NYCDEP-funded wastewater programs under the MOA, primarily intended to control wastewater threats from existing development, also support the smart growth philosophy of encouraging community growth within hamlet areas rather than the diffuse sprawl development that often occurs in the absence of centralized environmental infrastructure. Under the New Sewage Treatment Infrastructure, Community Wastewater Management, and Sewer Extension Programs, NYCDEP has funded the construction of new wastewater infrastructure in a number of villages and hamlets, as shown in Table 1-3. The centralized wastewater treatment facilities at these locations support the widespread local desire of hamlet revitalization. These facilities further the goals embodied in the hamlet provisions of the MOA and the expanded hamlet proposals embraced by communities and NYCDEP by encouraging clean and “green” development in population centers and reducing pressure for development and land consumption in outlying areas.

**Table 1-3: Wastewater Infrastructure Funded by NYCDEP**

<u>Village/Hamlet</u>	<u>Town or Village/County</u>	<u>Type of Facility</u>
Andes	Andes/Delaware	WWTP
Bloomville	Kortright/Delaware	Community Septic System
Bovina Center	Bovina/Delaware	Community Septic System
Fleischmanns	Fleischmanns/Delaware	WWTP
Grand Gorge	Roxbury/Delaware	Sewer Extensions
Hamden	Hamden/Delaware	Community Septic System
Roxbury	Roxbury/Delaware	Connection to City's Grand George WWTP
South Kortright	Stamford/Delaware	Community Septic System (in planning stage)
Trout Creek	Tompkins/Delaware	Community Septic System (in planning stage)
Ashland	Ashland/Greene	WWTP
Hunter	Hunter/Greene	WWTP
Lexington	Lexington/Greene	Community Septic System (in planning stage)
Prattsville	Prattsville/Greene	WWTP
Tannersville	Tannersville/Greene	Sewer Extensions
Windham	Windham/Greene	WWTP
Grahamsville	Neversink/Sullivan	Sewer Extensions
Boiceville	Olive/Ulster	WWTP

*Natural Features Criteria*

Another proposed change to the Extended LAP under discussion involves modifying the Natural Features Criteria, as discussed above, to define thresholds for the minimum amount of the specified natural features that must be present on a property to qualify for acquisition. As of the date of issuance of this DEIS, the following thresholds for the Natural Features Criteria are under consideration:

The City would not acquire properties in Priority Areas 2, 3, and 4 unless as of the time of the acquisition, the property meets either one of the following conditions:

- a) The property is adjacent to land owned by or under contract to be acquired by the City or owned by the State; or
- b) The natural features on the property meet one or both of the following criteria under negotiation:<sup>5</sup>
  - At least seven percent (7%) of the property exhibits surface water features, or
  - At least fifty percent (50%) of the property exhibits slopes greater than 15 percent.

The determination of whether the Natural Features Criteria thresholds are met would be based on the best information available to the City at the time the City orders an appraisal. These modifications would remove lands from eligibility for future solicitation. This would focus acquisitions on those lands most sensitive for water quality. Table 1-4 shows the impact of the proposed hamlet Expansion Areas (PEAs) and changes to the Natural Features Criteria on the pool of solicited lands, if the criteria presented above were to be adopted.

**Table 1-4: Impact of PEAs, MOA Designated Areas and Proposed NFC Thresholds on Remaining Solicited Land as of March 2010**

	(a)	(b)	(c)	(d)	(e)	(f)
	Impact on Remaining Solicited Acres					
County	Remaining Solicited Acres	Proposed Expansion Areas (PEA)	MOA Designated Areas	NFC: 7% SWC / 50% Steep Slope Threshold	Totals Solicited Acres Impacted (sum of Columns b, c & d)	Remaining Acres available for solicitation
Delaware	186,725	4,500	1,423	8,378	13,104	173,621
Greene	65,323	6,430	965	2,612	10,007	55,316
Schoharie	14,306	1,113	0	533	1,646	12,660
Sullivan	19,859	0	308	440	748	19,111
Ulster	48,531	381	316	675	1,372	47,159
<b>Totals</b>	<b>334,744</b>	<b>12,424</b>	<b>3,012</b>	<b>12,638</b>	<b>26,877</b>	<b>307,867</b>
Walton	28,527	2,588			2,588	25,939
Shandaken	13,761		385	15	400	13,361
<b>Totals</b>	<b>377,032</b>	<b>15,012</b>	<b>3,397</b>	<b>12,653</b>	<b>29,865</b>	<b>347,167</b>
Column (a)	'Remaining Solicited Acres' are LAP solicited acres not already signed or closed; includes all Priority Areas; Does not include WAC solicitation.					
Column (b)	Sub-set of Column (a) lying within accepted PEA's in each County. If only a portion of a solicited parcel lies within a PEA, only the acres within the PEA is counted.					
Column (c)	Sub-set of Column (a) lying within each MOA Designated Areas in each County. Acres are counted whether or not the Town has previously elected to exclude LAP acquisitions in fee simple. If only a portion of a solicited parcel lies within an MOA designate					
Column (d)	Sub-set of Column (a) in properties solicited by LAP whose NFC would fall below the 7% SWC or 50% Steep Slope threshold and also located in Priority Area 2, 3 or 4 and outside the PEA's.					
(1) Delaware County	Delaware County totals exclude Walton PEA, which has not yet been accepted by the parties. Acreage that would be excluded from solicitation by the current Walton PEA proposal is presented at the bottom of the table.					
(2) Ulster County	Ulster County totals exclude the Town of Shandaken PEA. In lieu of designating specific parcels for its PEA, Shandaken has requested, and the parties have tentatively agreed, that the City will not proactively solicit land in Shandaken, but may negotiate					

The proposed Expansion Areas could remove about 15,000 acres from solicitation, and the proposed thresholds for Natural Features Criteria could remove another 12,600 acres.

<sup>5</sup> There are a few other percentages also under consideration.

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Although the PEAs, MOAs and NFC thresholds would remove about 30,000 acres of solicited land, there would still be a very large universe, about 350,000 acres, for NYCDEP to draw from for its acquisitions in the West-of-Hudson watershed. Therefore NYCDEP doesn't consider these new criteria to be a constraint on the total number of acres it will acquire, but rather that they will focus acquisitions on more sensitive areas.

Because agreement has not been reached on the Natural Features Criteria thresholds, for purposes of the DEIS, the current criteria were analyzed. This approach is conservative for purposes of the socioeconomic impact analysis because the new criteria under consideration will minimize any adverse socioeconomic effects by reducing the types of land the City can acquire. For the water quality analysis, the land acquisition program results in beneficial impacts with or without modifications to the Natural Features Criteria; the differences in beneficial effects among the different criteria will be qualitatively discussed.

### *Riparian Buffer Pilot Program*

The City has tentatively agreed to implement a three-year Pilot Program in which the City would allocate up to Five Million Dollars (\$5,000,000) of the funds currently committed to the LAP to a pilot program for acquiring Riparian Buffers in easement or fee. As currently envisioned, the City-funded Riparian Buffer Pilot Program (RBP Program) would be implemented in conjunction with one or more Stream Management Plans developed under the City's Stream Management Program, and would be carried out in partnership with one or more local land trusts.

### **Use of Water Supply Lands**

As discussed in the Program to Date section above, NYCDEP allows recreation, forestry, mining, and low intensity cultivation on NYCDEP owned lands. These are expected to continue and possibly be expanded on lands purchased under Extended LAP, subject to future approvals, as applicable and where consistent with water supply protection and public safety.

The Proposed Action for this EIS is the new Water Supply Permit that would allow for continued acquisition under the Land Acquisition Program. As discussed above under *Program to Date*, most of the uses allowed on NYCDEP lands are subject to separate site specific approvals of land use plans and/or stormwater pollution prevention plan approvals, and environmental reviews, where applicable. Recreational uses, which are allowed pursuant to "NYCDEP Rules for the Recreational Use of Water Supply lands and Waters" underwent SEQRA review (Negative Declaration dated July 2008), and are not subject to further review and approval; therefore, they are reviewed in this EIS. Other uses are either a continuation of an existing use or are subject to future approvals and environmental review and are not reviewed in this EIS.

### **PROJECTION OF POSSIBLE FUTURE LAND ACQUISITION BY COUNTY**

For purposes of the EIS, projections were made of potential future acquisitions to understand potential impacts of the Extended LAP. So as not to underestimate socioeconomic or community character impacts, the projections are highly conservative for purposes of developing a reasonable worst case scenario – that is, a high estimate of acquisitions – at the town level for evaluation in this EIS. The projections use the pool of previously solicited lands as a starting point (after removing land already acquired). These acres were then multiplied by an assumed

future success rate for each town. The future success rates are conservative, in that they err on the side of over-estimating acquisition. Using the county-wide historical success rate as a starting point, the town-based rates assume that future acquisition will occur at a rate higher than has been seen to date. This 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.

Table 1-5 presents projections for future watershed land acquisitions by county. Acres of fee, conservation easement (CE) and Watershed Agricultural Council (WAC) easement land that could be acquired through 2022 were projected for each town (town level projections are presented in Chapter 3, *Socioeconomic Conditions*).

**Table 1-5: Reasonable Worst Case Projections of Acquisitions Under the Extended LAP**

District	County	Historical Success Rate	Fee/CE Acres Acquired To-Date	Assumed Future Success Rate	Projected Future Acres	Projected Future WAC CE Acres	Total Proj. Acres LAP + WAC
WOH	Delaware	13%	31,174	20%	40,900	13,152	54,052
	Greene	20%	16,072	27%	16,760	952	17,712
	Schoharie	18%	3,351	25%	3,384	1,162	4,546
	Sullivan	14%	3,461	20%	3,963	301	4,264
	Ulster	22%	17,663	25%	15,942	433	16,375
	<b>Sub-Total</b>		<b>16%</b>	<b>71,721</b>	<b>22%</b>	<b>80,948</b>	<b>16,000</b>
EOH	Dutchess	46%	1,049	25%	307	0	307
	Putnam	63%	7,564	30%	1,210	0	1,210
	<b>Sub-Total</b>	<b>60%</b>	<b>8,614</b>	<b>33%</b>	<b>1,517</b>	<b>0</b>	<b>1,517</b>
<b>Totals</b>		<b>17%</b>	<b>80,335</b>	<b>22%</b>	<b>82,465</b>	<b>16,000</b>	<b>98,465</b>

Note: Town-Level Projections were not conducted for Westchester County due to low anticipated volume

As shown in Table 1-5, the projected amounts of land in the watershed, particularly in the West-of-Hudson watershed, are higher over the next 12 years than the previous 12 years. This is an unlikely scenario because the City has already solicited much of the land it will be soliciting in the future and the success rates are likely to be somewhat lower rather than higher as shown in the projections, since the remaining lands are largely owned by individuals who have declined to sell in the past. These optimistic projections are therefore highly conservative for purposes of projecting future potential impacts, particularly with respect to socioeconomic and community conditions.

No projections were made for the Croton System or Westchester County. Acquisitions in the Croton Watershed would be highly unusual and only made for a limited set of very water sensitive lands. For Kensico Reservoir watershed in Westchester County, very few parcels would be expected to be acquired. Due to the highly developed nature of the watershed, land that would be acquired would tend not to be vacant land, but more likely land that is either part of an existing recreational area (such as a golf course), office park or other use. The potential for these

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acquisitions are discussed qualitatively but, due to the predicted low levels of acquisition, no potential significant impacts are expected to occur.

### **EIS PROCESS**

This DEIS has been prepared to assist decision-makers by providing a full disclosure of the environmental consequences of the proposed action. The DEIS conforms with the State Environmental Quality Review Act (SEQRA) and its implementing regulations (6 NYCRR Part 617) in accordance with Article 8 of the Environmental Conservation Law and the City Environmental Quality Review (CEQR) Executive Order 91 of 1977 (as amended).

As the first step in the environmental review process, a Draft Scope of Work was issued on February 16, 2010. Public meetings to obtain oral testimony on the draft scope were held in Hunter and Delhi, New York on March 23, and March 24, 2010 respectively. The period for submitting written comments remained open until April 5, 2010. A Final Scope of Work issued on April 30, 2010, finalizing the scope of analysis for the DEIS based on comments received. Based on the Final Scope of Work, this DEIS was prepared and certified as complete. The DEIS is being circulated for public review and public hearings will be scheduled with a period for submitting written comments on the DEIS. This will be followed by preparation and circulation of the Final EIS (FEIS), which will include written responses to address public comments made on the DEIS.

### **PERMITS AND APPROVALS**

NYCDEP has applied to NYSDEC for a Water Supply Permit which will authorize the continuation of the LAP beyond the January 2012 expiration of the 1997 WSP. In addition, NYCDEP consults regularly with NYSDOH, USEPA, and NYSDEC concerning its continued implementation of the requirements for the LAP as set forth in the 2007 Filtration Avoidance Determination.