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Economic Benefits of Open Space Preservation

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One tenet of the “smart growth” movement is that communities should strive to preserve open space, farmland, natural beauty and critical environmental areas.¹ Conflicts often occur between open space preservation and other goals. In fiscally challenging times, it is particularly important to understand and consider fully the economic benefits of open space.

While the environmental and recreational benefits of open space preservation are readily apparent, the many economic benefits are often less evident. For example, benefits provided by open space, such as water preservation and storm water control, are often significant. In many instances it is less expensive for a community to maintain open space that naturally maintains water quality, reduces runoff, or controls flooding than to use tax dollars for costly engineered infrastructure projects such as water filtration plants and storm sewers. When these benefits, also known as ecosystem services, are overlooked, open space protection may be considered an expense rather than an investment that can mitigate property tax increases, leading to land use decisions that do not accurately weigh costs and benefits.

A review of studies of the costs and benefits of open space protection conducted by the Office of the State Comptroller finds that:

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

¹ Principles promulgated by the Smart Growth Network (representing a coalition of government and advocacy groups) are available online at www.smartgrowth.org/about/default.asp.

Decision-making that explicitly considers and values the positive economic effects of open space, as well as environmental and quality-of-life implications, will best serve a community's long-term interests. Accordingly, this report reviews a number of policy issues associated with open space planning and protection. In addition, the report recommends that State and local governments:

- Evaluate protections for lands providing ecosystem services;
- Improve State planning for open space;
- Allow municipalities to establish community preservation funds;
- Support local open space planning; and
- Encourage private land conservation.

Definitions and Challenges

In the most general terms, open space protection programs are actions taken by governments or private entities to preserve open space, either by taking ownership or otherwise controlling the use of land. Open space uses include:

- Public parks with developed facilities such as playgrounds, swimming pools and golf courses;
- Rustic or wilderness parks, such as the Adirondack or Catskill parks, that have little in the way of developed facilities;
- Privately held lands used for farming, forestry, or watershed protection that may have significant modification to landscapes and vegetation and may or may not allow public access; and
- Portions of residential, commercial or industrial lots not containing buildings.

All of these land uses serve specific and sometimes multiple open space functions. Playgrounds, golf courses and wilderness parks provide outdoor recreation. Wilderness parks, farms, working forests, watershed lands and even undeveloped portions of private lots can provide habitat for plants and wildlife, offer scenic views and preserve community character.

Different forms of open space can serve valuable habitat, recreational and natural water management functions, including purifying surface waters, replenishing aquifers and impeding flooding. These water management functions are often referred to as "ecosystem services" or "natural services."

Sprawl

New York has a unique urban and natural heritage, as well as a rich diversity of communities. These communities include open spaces that need to be conserved or developed in a way that is economically and environmentally sustainable. The alternative is the continuing dispersion of population and development, or "sprawl," with all its associated costs.

Downstate, high population density and continued growth have created intense pressure on remaining open spaces, generating critical environmental and recreational concerns. Development pressure on open space also exists upstate, even though in this region population growth has remained relatively flat. Many upstate cities, villages and older

inner-ring suburbs are losing population, while communities further out are experiencing rapid growth and development.² Much of this new development is low density, and occurs at the fringe of settled areas, forests and farmlands. New infrastructure (water, sewer and roads) may be required even as existing infrastructure elsewhere is underutilized.

A Brookings Institution study describes a pattern of accelerating sprawl in upstate New York even as population growth slows, which is undermining the region's quality of life and economic health.³ The study documented that in the years between 1982 and 1997 upstate land was developed at twelve times the rate of population growth, and new housing units were developed about twice as fast as new households were created. In growing areas, sprawl causes transportation problems, environmental degradation and the loss of farmland, natural areas and other open space. Sprawl also increases local taxes for expanded services, particularly for schools.

Ecosystem Services

Living organisms and the environment in which they live are often referred to as ecosystems. Ecosystems provide benefits such as food, water, air and natural resources. For example, a privately owned wetland may filter pollution from water used for drinking water downstream, recharge an aquifer that supplies drinking water or prevent downstream flooding. Naturally functioning ecosystems provide services that economists and planners identify as ecosystem services.⁴ Ecosystem services, such as those provided by a wetland, can reduce municipal costs or provide clean water used in commercial or industrial activities. The value of these services, however, often goes unrecognized, with the landowner not compensated for providing this benefit by maintaining rather than developing the wetland.

Economic Benefits

Open space can provide a variety of public benefits, including drainage and water management, recreational opportunities and a supply of natural resources necessary for certain industries.

Water Management

Drainage and water management benefits provided by open space include control of storm water runoff, preservation of surface water quality and stream flows, and infiltration of surface water to replenish aquifers. When lands are converted from open space to other uses, the natural benefits provided by open space often must be replaced through the construction of water treatment facilities to clean up contaminated surface or groundwater supplies, levies to control flooding or other infrastructure to control storm water. Local taxes often pay for the construction of facilities to replace these lost drainage benefits.

² For a complete description of these trends in various regions of the State, see *Population Trends in New York State's Cities*, Office of the State Comptroller (2004) at www.osc.state.ny.us/localgov/pubs/research/pop_trends.pdf.

³ Pendall, Rolf. "Sprawl Without Growth: The Upstate Paradox." *The Brookings Institution Survey Series*. 2003. The Brookings Institution Center on Urban and Metropolitan Policy. www.brookings.edu/~media/Files/rc/reports/2003/10demographics_pendall/200310_Pendall.pdf.

⁴ Kline, Jeffrey D., Marisa J. Mazzotta and Trista M. Patterson. "Toward a Rational Exuberance for Ecosystem Services Markets." *Journal of Forestry* 107.4 (June 2009): 204-212.

According to the U.S. Government Accountability Office, on those lands with natural ground cover only 10 percent of precipitation becomes runoff, while 90 percent infiltrates into the ground. However, when 75 percent of the site is covered with impervious surfaces, 55 percent of the precipitation becomes runoff. On paved parking lots, 98 percent of precipitation becomes runoff.

Paving not only significantly increases the amount of storm water than runs off from a parcel of land, but it also increases the speed of runoff. In comparison to open space, streets and parking lots create conditions that prevent groundwater from being recharged. This, in turn, may lead to water shortages.

Increases in the percentage of land covered with impervious surfaces result in greater amounts of storm water that must be managed, which can translate into higher municipal costs. Moreover, storm water managed by engineered controls (e.g., retention basins) is more likely to pollute subsurface water than water filtered through forested open space.⁵

The engineering department at Purdue University estimates that approximately eight times more storm water runs off from impervious surfaces, such as streets, sidewalks and roofs, than from forested land.⁶ When the percentage of impervious surfaces in a watershed grows there is a corresponding increase in undesirable consequences:

- Increased frequency and severity of flooding;
- Increased erosion;
- Reduced groundwater recharge; and
- Reduced natural filtration of water—resulting in increased pollution and reduced stream health.⁷

The costs of addressing the negative effects of increased storm water must also be considered when weighing the benefits of preserving open space. Again, local taxes often pay to mitigate these deleterious effects.

On the other hand, natural drainage and water management provided by open space can significantly reduce municipal costs for water treatment. A 2002 survey of 27 water suppliers found that for every 10 percent increase in forest cover in a municipal water system's watershed, costs of water treatment decreased by 20 percent.⁸ A series of studies have found the preservation of open space to be a far more economical way to address storm water requirements. Examples include:

- The New York City Department of Environmental Protection projects that the costs of preserving and restoring natural drainage features in 16 Staten Island

⁵ Nowak, David, Jun Wang and Ted Endreny. "Environmental and Economic Benefits of Protecting Forests Within Urban Areas: Air and Water Quality." *The Economic Benefits of Land Conservation*. Ed. Constance T.F. de Brun. The Trust for Public Land, 2007. 28-47.

⁶ Actual Observations of runoff in Indiana show that actual runoff from impervious surfaces was 63 times greater than runoff from forested land. See <https://engineering.purdue.edu/SafeWater/watershed/landuse.html>.

⁷ dela Cretaz, Avril and Paul K. Barten. *Land Use Effects on Streamflow and Water Quality in the North Eastern United States*. Boca Raton: CRC Press, 2007. Stream health is measured by a benthic macro invertebrate index related directly to the percentage of impervious surfaces in the watershed. The presence of control measures like stream buffers did not change this relationship (p. 238).

⁸ Ernst, Caryn, Richard Gullick and Kirk Nixon. "Protecting the Source: Conserving Forests to Protect Water." *Opflow* 30.5 (May 2004). www.tpl.org/content_documents/landandwater_opflow_article.pdf.

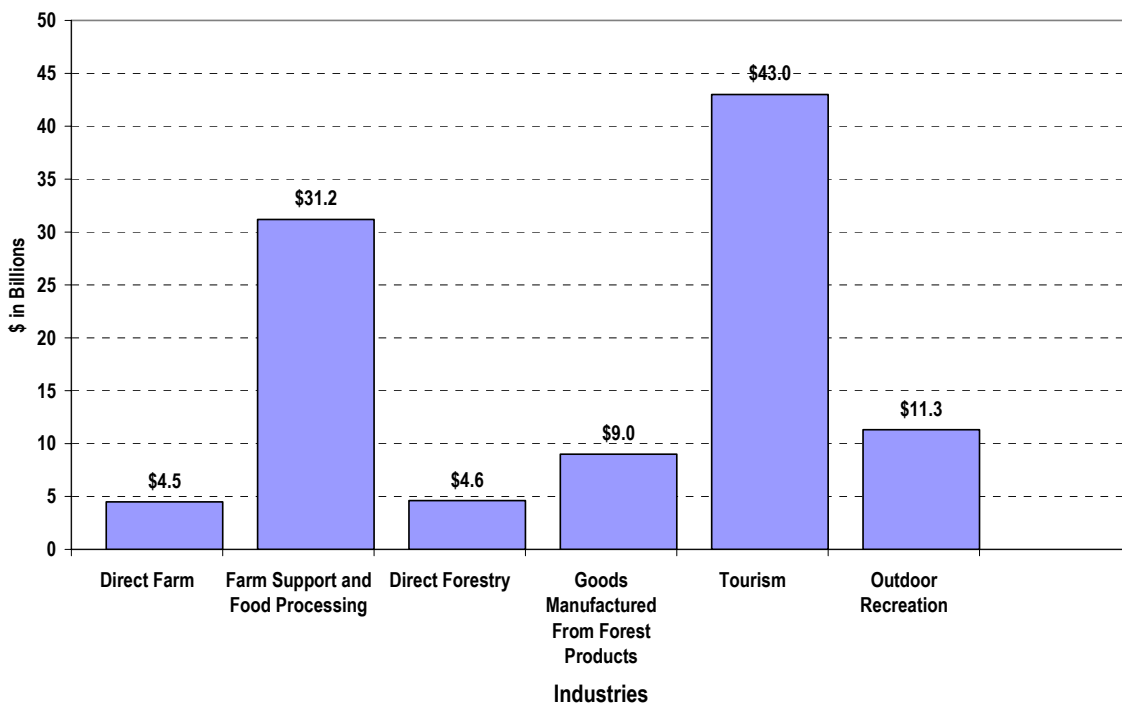
watersheds will save tens of millions of dollars in comparison to the costs of constructing and maintaining storm water control infrastructure.⁹

- An Army Corps of Engineers study on acquisition of 8,500 acres of wetlands adjacent to the Charles River in Massachusetts estimated costs for engineered flood control measures at \$100 million compared to a \$10 million cost to acquire the wetlands.
- A recent analysis by the Texas Comptroller found that the environmental benefits from Texas urban parks freed up enough capital for private investment to contribute 3,906 jobs, \$233.6 million in gross state product and \$153.7 million in personal income annually.¹⁰

Industries Reliant on Open Space

A strong link exists between open space preservation and the health of certain industries. Some sectors of the economy, such as agriculture, forestry and industries that rely on forest products, cannot function without access to open space. Other industries, such as tourism and outdoor recreation, are closely related to open space.

Contribution of Industries Reliant on Open Space to New York State Economy



Natural resources like timber, minerals or agricultural land are critical inputs to economic activity. For example, a study by American Farmland Trust reports that agricultural activity in New York’s Hudson Valley generated \$434.9 million in 2000—economic activity predicated on access to productive agricultural land. When open lands are converted to

⁹ New York City. Environmental Protection. “The Staten Island Bluebelt.” Accessed January 27, 2010. www.nyc.gov/html/dep/html/dep_projects/bluebelt.shtml.

¹⁰ Texas. Texas Comptroller of Public Accounts, Susan Combs. *Texas State Parks: Natural Economic Assets*. September 2008. www.window.state.tx.us/specialrpt/parks/.

other uses, production of natural resources may be impeded or even lost. This, in turn, results in increased costs of transportation in order to bring needed materials in from other areas where they are still available.¹¹

To be profitable, agriculture requires access to large parcels of productive soils. As farmland is lost to other uses due to rising property taxes and fragmentation of farmland, the viability of farming is threatened. Without public intervention in the form of agricultural zoning, agricultural property tax abatement and/or purchase of development rights, the strong demand for the conversion of farmlands can be overwhelming.¹²

Without a critical mass of farms in an area, the support businesses that service farms cannot survive, further threatening the viability of farms.¹³ Agriculture is among New York's largest and most vital industries, encompassing 25 percent of the State's landscape and directly generating more than \$4.5 billion for the State's economy each year. In 2007, the income generated directly by farms, combined with income generated by agricultural support industries and by industries that process agricultural products, totaled \$31.2 billion.¹⁴

Programs to protect farmland can achieve additional economic benefits. A survey of participants in Vermont's program to purchase development rights on farmland found that many farmers reinvested revenues from sale of easements back into their farms. These investments, in turn, improved the profitability of the farms.¹⁵

Forestry also requires significant parcels of open space to be viable. While trees can certainly grow in cities and residential neighborhoods, these settings make it difficult for loggers to operate efficiently. New York's forestry industry employs 60,000 people and contributes \$4.6 billion annually to the State's economy.¹⁶ When the value of products manufactured from forest products and the income generated by forest-related recreation and tourism are considered, New York's forests generate approximately \$9.0 billion in economic activity on an annual basis.¹⁷

¹¹ Miller, Stephen. "The Economic Benefits of Open Space." *The Economic Benefits of Land Conservation*. Ed. Leonard W. Hamilton. New Jersey: The Great Swamp Watershed Association, 1997.

¹² Esseks, Dick, et al. "Sustaining Agriculture in Urbanizing Counties: Insights from 15 Coordinated Case Studies." January 2009. University of Nebraska, Lincoln.

<http://ofp.scc.wa.gov/wp-content/uploads/2008/10/sustaining-agriculture-in-urbanizing-counties.pdf>.

¹³ An economic survey of farms and farm-related businesses in New York's Hudson Valley showed that the number of farm-related businesses declined as acreage in farmland declined. Agricultural and Community Development Services, LLC. *At a Crossroads: Agricultural Economic Development in the Hudson Valley*. Northeast Field Office, Saratoga Springs, New York: American Farmland Trust. 2004.

www.farmlandinfo.org/documents/29996/New_York_Hudson_Valley_Summary_Report.pdf.

¹⁴ Bills, Nelson and Gregory Poe. "Agriculture and the Environment: Trends in New York Land Use and Highlights of the 2008 Farm Bill." *New York Economic Handbook 2009*. Ed. Department of Applied Economics and Management, College of Agriculture and Life Sciences. Ithaca: Cornell University, December 2008.

http://aem.cornell.edu/outreach/extensionpdf/2008/Cornell_AEM_eb0825.pdf.

¹⁵ Furgeson, Kirseten and Jeremiah Cosgrove. *From the Field: What Farmers Have to Say About Vermont's Farmland Conservation Program*. Northeast Field Office, Saratoga Springs, New York: American Farmland Trust. 2000.

www.farmlandinfo.org/documents/29389/From_The_Field.pdf.

¹⁶ New York. Department of Environmental Conservation. "Forests." Accessed January 27, 2010. www.dec.ny.gov/lands/309.html.

¹⁷ North East State Foresters Association. *The Economic Importance of New York's Forests*. March 2001. www.nefainfo.org/publications/nefany.pdf.

Similarly, New York's open spaces attract significant numbers of visitors, many of whom come from out-of-state. A 1987 study conducted by the President's Commission on Americans Outdoors cited natural beauty as the most important factor in attracting tourist visits.¹⁸ New York's tourism industry generates approximately \$43 billion annually.¹⁹ While not all of this money is generated through tourism related to open space, there is evidence that open space is a significant attraction. For example, according to the Adirondack Regional Tourism Council, between seven and ten million tourists visit the Adirondack Park annually.²⁰

Another way in which open space contributes to the State's economy is by providing opportunities for outdoor recreational activities. According to information generated by the Outdoor Industry Foundation (OIF), 18.4 million people participated in some form of nonmotorized outdoor recreation in New York State in 2005.²¹ As reported by OIF, sales of equipment for these pastimes generated \$11.3 billion annually in retail sales and services in New York State.²²

A recent study by Parks and Trails New York estimates \$1.9 billion in economic activity is generated by the 55.7 million annual visitors to the New York State Park System.²³ This demonstrates the economic value of New York's park system, in addition to its recreational and ecological value.

Open Space Preservation and Municipal Revenues

A common misperception is that open space protection translates into a loss of revenues for municipalities. While replacement of farming or forestry land with residential, commercial or industrial uses can produce an increase of gross revenues, that increase can be more than offset by an increase in the demand for services. In addition, conversion of land from less intensive uses to more intensive uses can come at the expense of adjacent urbanized areas, as shown by a Brookings Institution study of upstate New York.²⁴

Studies have shown that open space demands fewer municipal services than lands in other use. Consequently, open space tends to generate greater municipal tax revenue than the value of services required by these lands. In comparison, lands in residential use typically consume services of greater value than the property tax revenues generated by

¹⁸ Fausold, Charles J. and Robert J. Lilieholm. "The Economic Value of Open Space: A Review and Synthesis." *Environmental Management* 23.3 (April 1999): 307-320.

¹⁹ New York. Empire State Development. "Empire State Development News." Accessed January 27, 2010. www.nylovesbiz.com/press/press_display.asp?id=868.

²⁰ New York. Adirondack Regional Tourism Council. "Fast Facts." Accessed January 27, 2010. <http://visitadirondacks.com/newsroom/fast-facts.html>.

²¹ Outdoor Industry Foundation. "The Active Outdoor Recreation Economy: A \$730 Billion Contribution to the US Economy." Fall 2006. www.outdoorindustry.org/pdf/NewYorkRecEconomy.pdf

²² *Ibid.*

²³ Heintz, James, Robert Pollin and Heidi Garret-Peltier. *The New York State Park System: An Economic Asset to the Empire State*. March 2009. Published by Parks and Trails New York. www.ptny.org/pdfs/advocacy/peri_full_report.pdf.

²⁴ Pendall, Rolf. "Sprawl Without Growth: The Upstate Paradox." *The Brookings Institution Survey Series*. 2003. The Brookings Institution Center on Urban and Metropolitan Policy. www.brookings.edu/~media/Files/rc/reports/2003/10demographics_pendall/200310_Pendall.pdf.

these lands.²⁵ Protected open space that remains on municipal tax rolls can produce a net profit for the municipality when the cost of services consumed by the property is compared with revenues generated.

Although the net revenue gain from residential development may be negative, residential development does increase land valuation for property tax purposes. This increased valuation may lead municipal officials to approve development projects that are either inconsistent with municipal planning or improperly sited.²⁶ These decisions, when coupled with the higher demand for services generated by residential development, can actually increase tax rates and overall tax bills for individual properties. A comparison of towns in New Jersey conducted by the Association of New Jersey Environmental Commissions found that per capita tax increases between 1970 and 1990 were significantly lower in towns with sizable percentages of protected lands and substantial farmlands.²⁷ In other words, open space preservation can actually help to keep taxes lower.

Conversely, loss of open space can increase per capita tax rates in a community. It can also negatively impact the tax base of adjacent communities. The Brookings Institution studied the causes and effects of loss of open space in upstate New York.²⁸ The study found that from 1982 to 1997, 425,000 acres of upstate New York were urbanized, an increase of 30 percent. During this time period, population growth in the region was negligible. One of the effects of the new urbanization was the reduction in population and tax base of previously established urban centers. During the decade from 1990 through 2000, the assessed value of property in upstate cities declined by 7.0 percent.²⁹

Some forms of open space protection, however, remove the property from the tax rolls. Even in circumstances where the municipality purchases either an easement of development rights or the full ownership rights on the land (known as fee title), several studies report net fiscal benefits to municipalities over relatively long pay-back periods of 15 years or longer.³⁰ This effect is produced through a combination of maintaining ecosystem services and limiting the growth in demand for services due to the preservation of open space.

In the case of New York State-owned lands, the State pays property taxes to towns, villages, school districts and special taxing districts for some categories of State-owned open space. The broadest categories of land on which property taxes are paid are lands held as State Reforestation Lands, the New York State Forest Preserve and some

²⁵ Auger, Philip A. "Does Open Space Pay?" *Natural Resource Network*. 1996. University of New Hampshire Cooperative Extension. http://extension.unh.edu/resources/representation/Resource000400_Rep422.pdf; American Farmland Trust. *Does Farmland Protection Pay? The Cost of Community Services in Three Massachusetts Towns*. Massachusetts Department of Food and Agriculture. June 1992.

²⁶ American Farmland Trust. *Does Farmland Protection Pay? The Cost of Community Services in Three Massachusetts Towns*. Massachusetts Department of Food and Agriculture. June 1992.

²⁷ Association of New Jersey Environmental Commissions. "Open Space is a Good Investment: The Financial Argument for Open Space Preservation." Resource Paper. www.anjec.org/pdfs/OpenSpaceGoodInvestment2004.pdf.

²⁸ Pendall, Rolf. "Sprawl Without Growth: The Upstate Paradox." *The Brookings Institution Survey Series*. 2003. The Brookings Institution Center on Urban and Metropolitan Policy. www.brookings.edu/~media/Files/rc/reports/2003/10demographics_pendall/200310_Pendall.pdf.

²⁹ *Ibid.*

³⁰ Association of New Jersey Environmental Commissions. "Open Space is a Good Investment: The Financial Argument for Open Space Preservation." Resource Paper. www.anjec.org/pdfs/OpenSpaceGoodInvestment2004.pdf.

properties owned by the New York State Office of Parks, Recreation and Historic Preservation.

Property taxes are also paid on other State-owned lands based on specific sections of the New York State Real Property Tax Law. According to projections by the New York State Office of Real Property Services, the State paid approximately \$173.4 million in property taxes to local governments in 2007. State reforestation lands and forest preserve lands are primarily held in undeveloped, wilderness uses. In these circumstances, the cost of municipal services for such lands should be minimal, and the net positive revenue impact is, therefore, significant.

Open Space Preservation and Other Policy Goals

There is a tendency to view open space as economically unproductive, contributing minimally to local economies and tax revenues, or even as fiscally damaging to municipal governments. This view fails to consider the many positive economic effects documented from open space. While conflicts may occur between open space preservation and other municipal goals, local decision-making that explicitly examines economic, environmental and quality-of-life considerations will best serve a community's long-term interests.

In regions of the State with high-value housing markets, such as Long Island, open space protection is sometimes viewed as further increasing already high housing prices by contributing to the scarcity of land for residential development. Since less land is available for development, open space preservation can contribute to increased land values. In addition, due to the aesthetic, recreational and other potential values of open space, property values of adjacent lands often increase.³¹ A number of studies support the link between land scarcity and higher housing values.³² However, this link between land scarcity and higher property values must be assessed while also considering the positive benefits of open space preservation—which can mitigate increases in tax rates by providing ecosystem services and reducing the demand for municipal services.

It is also difficult to single out open space protection as the most significant of all the factors affecting housing affordability, since factors other than open space protection, such as restrictive zoning or long delays in processing building permits, are also highly correlated with increasing housing prices.³³ Rising property tax rates, for example, are widely identified with increased costs of housing.

Since open space preservation may actually assist in holding down property taxes, well-designed open space protection programs that target specific lands, which provide

³¹ Fausold, Charles J. and Robert J. Lilieholm. "The Economic Value of Open Space: A Review and Synthesis." *Environmental Management* 23.3 (April 1999): 307-320.

³² Kahn, James A. "What Drives Housing Prices." *Federal Reserve Bank of New York Staff Reports*, no. 345. September 2008. www.newyorkfed.org/research/staff_reports/sr345.pdf; Case, Karl E. and Christopher J. Mayer. "Housing Price Dynamics within a Metropolitan Area." *Regional Science and Urban Economics* 26 (1996): 387-407. www.wellesley.edu/Economics/case/PDFs/dynamics.pdf; Scanlon, Rosemary. "Raise the Roof, Lower the Costs: Construction Costs and Housing Affordability in New York City." *Rethinking Development Report*, No. 4 June 2008. Manhattan Institute. www.manhattan-institute.org/html/rdr_04.htm.

³³ Case, Karl E. and Christopher J. Mayer. "Housing Price Dynamics within a Metropolitan Area." *Regional Science and Urban Economics* 26 (1996): 387-407. www.wellesley.edu/Economics/case/PDFs/dynamics.pdf.

high value ecosystem services or preserve farmland, timberland or other lands that support economic production, need not conflict with municipal housing goals.

For example, the four largest categories of lands (by acreage) targeted by the Long Island Town of Southampton's Community Preservation Project Plan are Central Pine Barrens Plan—Core Preservation Area (12,461.22 acres), Open Space/Greenbelt Areas (6,446.35), Agricultural Lands (4,252.69), and Wetlands (2,229.22).³⁴ Together these areas constitute 84 percent of Southampton's overall target of protecting 30,061.53 acres. In the Core Preservation area, development is highly regulated pursuant to State Law, a factor that would complicate use of these lands for purposes other than open space.³⁵ The list of Open Space and Greenbelt Projects included in the Southampton Plan shows that the majority of these projects comprise headland streams, streams and rivers and their banks, and marshes and swamps.

All of these land types either pose development challenges or may not be ideally suited for housing. For example, wetlands or floodplains pose regulatory and engineering challenges and have drainage features, like flood tendencies, which make them less desirable as development sites. To convert agricultural land to residential use, infrastructure investments, as well as access to transit and other services, may be required. All of these factors, as well as zoning ordinances and administration of ordinances pertaining to development, affect housing prices.

Tools for Open Space Protection: State, Local and Private

Open space protection occurs at the federal, state and local levels and involves a variety of actors and programs.

State Land Acquisition

Currently, New York State ranks first among all states in the country in numbers of state parks, recreation areas and natural areas, and second, after Alaska, in state park acreage.³⁶

New York State government generally protects land through:

- The purchase of lands in full fee title, where the State takes ownership of all of the rights in the land in question; or
- The purchase of easements, where the State purchases some of the use rights in the land.

Lands purchased by the State in full fee title for open space purposes may be managed as State forest preserve, State reforestation areas, wildlife management areas or State

³⁴ Town of Southampton Community Preservation Project Plan. Accessed February 4, 2010. www.southamptontownny.gov/FTP/SEQRA/CPF/introduction.pdf.

³⁵ Article 57, Title 1, of the New York State Environmental Conservation Law.

³⁶ O'Leary Morgan, Kathleen and Scott Morgan, ed. *State Rankings 2008: A Statistical View of America*. CQ Press, Washington, DC: CQ Press, 2008: 256; Hovey, Kendra A. and Harold A. Hovey. *CQ's State Fact Finder 2007: Rankings Across America*. Washington, DC: CQ Press, March 2007: 86.

parks.³⁷ The State pays property taxes on lands designated as forest preserve or State reforestation areas, and on some State Parks.

When the State purchases an easement for open space protection purposes, the State typically purchases only those use rights that would interfere with the open space protection purposes of the easement. Easements, where the underlying fee title to the land is retained by a private landowner, are purchased through a variety of programs including farmland protection, conservation easements and public fishing rights. Although State easement programs typically allow ongoing economic use of the land by private landowners, such use may be limited under the terms of the easement.

For example, working forest conservation easements allow the holder of the underlying fee title to practice forestry, but typically require sustainable practices. Conservation easements may or may not include rights of public access. Under the terms of these easements, public access is typically restricted to certain uses that do not interfere with the titleholder’s use of the lands. Private landowners generally continue to be the responsible party for property tax obligations on the lands, although land valuation may be reduced to reflect the diminished development potential due to the terms of the easement.

In the early 19th century, New York State began to create modern urban parks in its population centers. These lands were often already in some form of public use that was converted to publicly accessible open space. For example, Manhattan’s Bryant and Washington parks were potter’s field cemeteries until the 1820s when they were converted to parks.³⁸ Some of the earliest lands acquired by New York State for open space purposes were timber lands in the Catskill Mountains on which all economically harvestable timber had been cut and on which landowners had stopped paying taxes.³⁹

Significant Government-Managed Open Space Holdings in New York

Category	Acreage
Adirondack Forest Preserve	2,700,000 acres
Reforestation Areas	776,000 acres
Conservation Easements	600,000 acres
State Parks	330,000 acres
Catskill Forest Preserve	281,000 acres
Wild Life Management and Multiple Use Areas	179,000 acres
Federal Wildlife Refuges, Historic Sites and Recreational Areas	140,000 acres
County Open Space	100,000 acres
New York City Watershed	91,000 acres
City and Village Open Space	51,000 acres
Town Open Space	45,500 acres
Farmland Protection Easements	29,000 acres
National Forest	16,000 acres
Total	5,338,500 acres

Source: 2009 Draft New York State Open Space Plan: www.dec.ny.gov/lands/317.html

³⁷ The State also purchases lands for purposes other than open space, such as transportation, correctional and mental health facilities.

³⁸ New York City. Department of Parks and Recreation. “Bryant Park.” Accessed February 8, 2010. www.nycgovparks.org/parks/bryantpark/dailyplant/19637.

³⁹ VanValkenburgh, Norman J. *The Forest Preserve of New York State in the Adirondack and Catskill Mountains: A Short History*. Fleischmanns, New York: Purple Mountain Press, June 1996.

Since that time, most lands have been acquired for open space purposes through purchase. To pay for acquisition of land for parks, forest preserve and other open space purposes, the New York State Legislature has placed eleven resolutions proposing bond acts before the State's voters. Voters approved 10 of the 11 bond acts proposed for a variety of environmental purposes. These bond acts have authorized State debt in the amount of \$1.2 billion for land acquisition, park improvements and heritage area projects.

In addition, Chapter 610 of the Laws of 1993 established the New York State Environmental Protection Fund (EPF). The EPF provides funding for a variety of environmental conservation programs through three accounts: solid waste; parks, recreation and historic preservation; and open space. Since the inception of the EPF, more than \$1.1 billion has been appropriated to the open space account and \$730 million has been appropriated to the parks, recreation and historic preservation account. Both accounts fund programs that support open space conservation.

Historically, New York State has been in the forefront of open space conservation efforts. In 1833, New York created the first state park in the nation at Niagara Falls. New York also led the movement to preserve wilderness by creating the New York State Forest Preserve in the Adirondack and Catskill parks in 1885.⁴⁰

The Adirondack and Catskill parks continue to be models for open space conservation. The Parks include both private and public lands, with approximately 2.6 million acres, or 43 percent, of the Adirondack Park and 287,500 acres, or 41 percent, of the Catskill Park in public ownership. Approximately 130,000 people reside permanently in the Adirondack Park and 50,000 reside in the Catskill Park. In 1894, State constitutional protections were extended to State owned land in the Parks. Article 14, Section 1 of the New York State Constitution prohibits the taking or destruction of timber on the Forest Preserve, or the sale or lease of these lands. The Adirondack Park is distinct in that it is one of the few regions in New York where an overlay of State land use regulations govern certain categories of development projects.

There are two other notable examples of State-established land use management plans with which local land use decision making is coordinated: the Long Island Pine Barrens and the Albany Pine Bush. Both of these regions are representative of rare pitch pine ecosystems and are in areas that were attractive for conversion to residential and commercial land uses. In both cases, State laws were passed to protect habitat and other ecosystem services provided by open space.

Chapter 792 of the Laws of 1988 established the Albany Pine Bush Preserve Commission to protect and manage a pocket of pitch pine-scrub oak habitat in the City of Albany and the towns of Guilderland and Colonie in Albany County. The Commission was charged with development and implementation of a management plan to protect and manage the 2,725 acres of publicly owned lands for habitat protection and recreation. The

⁴⁰ Chapter 283 of the Laws of 1885 defined the New York State Forest Preserve as State owned lands in the counties of Clinton, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Lewis, Saratoga, Saint Lawrence, Sullivan, Ulster, Warren, Washington. State lands in Delaware and Oneida counties were later added to the Forest Preserve. The boundaries of the Adirondack Park were established by Chapter 707 of the Laws of 1892. The boundaries of the Catskill Park were established by Chapter 233 of the Laws of 1904.

Commission reviews and advises on development projects in a 12,500 acre study region surrounding the Preserve. The Commission has also identified property in the study region that would be suitable to add to the preserve through future acquisition. The Albany Pine Bush Preserve is one of only two known New York State habitats of the endangered Karner Blue Butterfly.

The Long Island Pine Barrens Protection Act (Act), Chapter 262 of the Laws of 1993, identifies 102,500 acres as the Central Pine Barrens, located in Suffolk County. Designed to preserve aquifer recharge and habitat functions in a “core preservation area,” as well as to promote compact growth in suitable “compatible growth areas,” the Act was an early example of legislation that advanced smart growth. The Act also helped to pioneer systems to transfer development rights. In the Central Pine Barrens, development rights--termed Pine Barrens Credits--can be transferred from privately owned land in the 55,000 acre core area to parcels in the compatible growth area to increase development intensity. Approximately 38,000 acres in the core area are in public ownership. Implementation of the Act is accomplished by the Central Pine Barrens Joint Planning and Policy Commission in conformance with the Central Pine Barrens Comprehensive Land Use Plan.

Local Government

Local governments play a vital role in open space protection and have a variety of tools at their disposal, including land use planning and regulation, and acquisition of open space or development rights. In New York, virtually all land use regulation takes place at the municipal level (i.e., in a city, village or town government). Land use planning is also primarily a municipal function, although State law provides for certain planning functions at the county and regional levels.

Land use regulation and planning allow local governments to manage growth and development and to direct development to those locations already served by public infrastructure (water, sewer and roads). The most common method of municipal land use control is to adopt zoning laws, which regulate the use of land by area or district, including the type of development that can occur (e.g., residential, commercial), as well as the density of such development (multifamily vs. single family, acres per building lot, etc.) and other details such as building height, parking and access. Zoning regulations may also designate areas as agricultural or forestry lands. Municipalities can address open space protection through site plan approval and subdivision regulations. These tools can identify appropriate locations for structures, roads and other infrastructure to preserve important natural features of a development site. Open space preservation is also achieved through strategies such as “cluster development”—where construction is concentrated in a portion of a subdivision while the rest of the land is maintained as open space.

In addition, municipalities can adopt ordinances expressly designed to protect certain forms of open space, such as wetlands, or certain features of the landscape, such as scenic vistas. These ordinances typically operate by requiring permits for actions that could harm areas deemed sensitive.

Land use regulations generally implement plans, including those for the protection and enhancement of open space, by managing growth and development in ways that accomplish local goals. Cities, towns and villages are authorized to prepare comprehensive plans, on which zoning and other land use controls will be based. Legal authority exists for either a separate open space plan or inclusion of open space elements within a comprehensive plan. Traditionally, comprehensive plans completed by municipalities include an open space element just as they include elements on transportation, utilities, community facilities, housing and other needs. Communities pursuing local open space planning and conservation should fully integrate those activities with the development and adoption of local comprehensive plans.

As of 2008, 69 percent of towns and 53 percent of counties in New York State had adopted comprehensive plans and 71 percent of towns had adopted zoning ordinances.⁴¹ The Department of State provides a comprehensive *Open Space Planning Guide* as well as training and materials on land use planning, regulation and open space protection.⁴² For example, the Department's Division of Local Government Services provides training programs for municipal officials on planning for open space protection.⁴³ In addition, a variety of other State programs assist municipalities in specific regions in conservation planning.⁴⁴

Local governments also can preserve lands through purchase or easements. The General Municipal Law establishes open land preservation as a public purpose and authorizes local governments to expend public funds to acquire interests or rights in real property to preserve open space. After acquisition, the valuation of the open space areas for property taxes may take into account and be limited by the restriction on the future use of the parcel.

General revenues can be spent, or local general revenue bonds can be issued for the purpose of acquiring open space resources. A dedicated revenue stream is another approach to funding open land acquisition or protection. However, no *general* provision of law allows municipalities to establish open space protection funds. Currently only a limited number of municipalities have been granted authority by the New York State Legislature to create funds—known as Community Preservation Funds—to protect open space. These funds are usually capitalized through a portion of the community's real estate transfer tax and are subject to a vote of local residents.

⁴¹ New York State Legislative Commission on Rural Resources Chair Senator George H. Winner, Jr. *New York Land Use Tools: Counties, Cities, Towns and Villages. A 2008 Survey of Land Use Planning & Regulations in NYS.* www.dos.state.ny.us/lqss/pdfs/RuralResourceSurvey.pdf.

⁴² New York State Department of Environmental Conservation and Department of State. *Local Open Space Planning Guide.* May 2007. www.dos.state.ny.us/lqss/pdfs/openspaces.pdf.

⁴³ See www.dos.state.ny.us/lqss/training.htm.

⁴⁴ See www.dec.ny.gov/docs/lands_forests_pdf/osp09chapter6.pdf. The 2009 New York State Open Space Plan contains a comprehensive list of State programs that partner with municipalities and private landowners. In addition the New York State Department of State's, Division of Local Government Services and the New York State Office of the State Comptroller's, Division of Local Government and School Accountability provide assistance and training to local governments.

Currently, 11 New York State Towns have specific authority to create community preservation funds.⁴⁵ In addition, Chapter 596 of the laws of 2007 gave municipalities in Putnam and Westchester counties the authority to create these funds. The towns of East Hampton, Southampton, Southold, Riverhead and Shelter Island on Long Island and the Hudson Valley towns of Red Hook and Warwick established community preservation funds through State legislative enactment and a local vote. These towns implemented a planning program to identify open space values to protect, parcels of land in line with these values and mechanisms to protect them.

Private Protection Programs

Government and private organizations offer a number of programs to assist private landowners in protecting open space values.

State and federal agencies offer programs that assist landowners in managing their property for open space purposes. For example, the New York State Department of Environmental Conservation runs a Cooperative Forest Management Program that offers private landowners assistance from a trained forester in the development of a forest management plan.⁴⁶ The plan identifies the landowner's goals for the forested land and then identifies activities to manage the lands to meet these goals. The federal government offers the Environmental Quality Incentives Program, which offers funding to assist landowners in implementing management actions.⁴⁷

Private land trusts are nonprofit organizations dedicated to preserving open space. They work with landowners to develop plans for preserving some or all of the open space values found on their land. Plans can range from purchase of the land in fee title to purchase of an easement that transfers development rights, or from exclusive use rights for the land trust to an informal agreement to use the land in ways that preserve open space values. Typically, land trusts work with landowners whose property contains desirable characteristics such as habitat for endangered plants or animals, or unique recreational opportunities. The New York State Conservation Partnership Program provides grants and technical support to regional land trusts with funds from the New York State Environmental Protection Fund (EPF). This program has assisted 67 regional land trusts in the conservation of more than 11,000 acres of open space. A benefit of the Conservation Partnership is that it helps attract funding from sources other than the State. With an investment of \$4.6 million in EPF funds this program has leveraged \$10 million additional conservation funding.

Tax Abatement

New York State has created programs to abate property and income taxes to encourage landowners to maintain land uses that preserve open space values. To address the needs of agriculture and forestry, New York State Law provides favorable property tax treatment

⁴⁵ Section 64 of the New York State Town Law. Towns with authorization to create community preservation funds are East Hampton, Riverhead, Shelter Island, Southampton, Southold, Brookhaven, Warwick, Red Hook, Chatham, Fishkill and Northeast.

⁴⁶ See www.dec.ny.gov/lands/5230.html.

⁴⁷ See www.dec.ny.gov/lands/53625.html.

for certain farm and timber lands. State law also provides tax credits applicable to State income tax obligations for State taxpayers who donate conservation easements.⁴⁸

New York State's Real Property Tax policies give significant latitude to local governments in assessing the value of real property, often resulting in significant variability in assessment practices from locality to locality. The financial pressure of property taxes may contribute to decisions by landowners to subdivide and develop their property, reducing the open space value of the land. Assessment practices can contribute to raising tax bills on parcels in ways that make it uneconomic for certain land uses to continue. For example, in areas that are undergoing development, if the characteristics of a parcel and local ordinances would allow subdivision to occur, assessors may assign a value to unused land that is part of a parcel based on its value as a subdivided building lot. Or, in regions where timber production is a predominant land use, assessors may include the contributory value of standing timber in a property's assessed value.

Landowners must manage forest crops for many years to realize a return on investment, and annual property taxes can make forest management unprofitable. New York State has established tax exemptions on lands in timber production, recognizing their economic value. The program currently in effect—called the 480-a program (Section 480-a of the Real Property Tax Law)—is open to property owners with at least 50 acres of timberland who maintain a timber management plan and harvest timber on a schedule identified in the plan. Under the program, the value of the exemption is 80 percent of the assessed value of certified lands or any assessed value over \$40 per acre, whichever is less. At the time of timber harvest, a 6.0 percent yield tax is due to municipal taxing jurisdictions based on the value of timber harvested.⁴⁹

The 480-a program contains several provisions to ensure that it achieves its goal of promoting forest management, and is not simply an undue benefit for large landowners or real estate speculators. To remain in the program, landowners must commit their lands every year to forest management for an additional ten years. Landowners who do not file this annual commitment lose the tax benefits of the program, but must still adhere to the forest management plan for the life of the most recent ten-year commitment. Violation of the ten-year forest management commitment results in a penalty tax of 2.5 times the tax savings received in the prior ten years plus interest.⁵⁰

The 480-a program only abates property taxes on land in active timber production. Lands that are part of a parcel enrolled in the program but are unsuitable for timber production, such as lakes, streams, wetlands and rocky outcrops, are excluded from the program. Any protection of ecosystem services beyond timber production is incidental to the program's purpose.

New York State's Agriculture Districts Law (Article 25-AA of the New York State Agriculture and Markets Law) provides reduced property tax assessment on lands used for

⁴⁸ Section 606.kk of the New York State Tax Law.

⁴⁹ *Joint Report of the New York State Department of Environmental Conservation and Board of Equalization and Assessment on the Forest Tax Laws (Sections 480 & 480a of the Real Property Tax Law)*. December 1993. www.orps.state.ny.us/ref/pubs/forestlaws/section1.htm.

⁵⁰ *Ibid.*

agriculture. The assessment is restricted to properties where at least seven acres of land has been in agricultural production for the prior two years, generating at least \$10,000 in income. The value of the assessment on a particular farm is determined from values assigned to categories of soil by the Department of Agriculture and Markets and the New York State Board of Real Property Services.

Some of New York's neighboring states offer less restrictive and more broadly purposed property tax exemption programs to encourage landowners to maintain their lands in open space. For example, Pennsylvania offers property tax abatements for landowners who maintain at least 10 acres of land in either active agricultural use, as agricultural reserve use lands open to public access, or forest reserve use. Tax rates for lands enrolled in this program are set by the Pennsylvania Department of Agriculture.⁵¹

Recommendations

New York State should take additional steps to encourage local open space planning and help ensure that the economic benefits of open space are recognized. The Office of the State Comptroller provides the following seven recommendations for State and local governments to consider.

Support Local Open Space Planning

New York State should encourage municipalities to undertake and implement plans to conserve the ecosystem services provided by open space. Planning to address water quality is particularly important.

In addition, the State must continue to provide training and other support services to municipalities to ensure that they have the necessary expertise to recognize the value of open space protection, identify valuable open space resources within their jurisdictions and identify appropriate mechanisms to protect open space values.

New York State should encourage good planning at the municipal level, to help ensure that critical local land use decisions are well-supported, because these decisions may raise or lower the cost of infrastructure and other services for all New Yorkers. For example, the New York State Department of Environmental Conservation (DEC) and Department of Health project that it will cost more than \$70 billion over the next 20 years to pay for the necessary maintenance and upgrading of New York's water and sewer infrastructure.⁵² Land use decisions by municipalities related to efficient use of existing infrastructure and preservation of ecosystem services will contribute to either raising or lowering these costs.

Finally, New York State government should consider setting standards for incorporating ecosystem services into municipal land use plans. In addition, the State should provide incentives to encourage municipalities to conduct planning that conforms with standards. An example of this is found in proposed legislation to promote smart growth by giving priority in the distribution of State assistance to local governments that have adopted

⁵¹ See www.timbertax.org/statetaxes/states/proptax/pennsylvania.asp.

⁵² Office of the State Comptroller, Division of Local Government Accountability "Cracks in the Foundation: Local Government Infrastructure and Capital Planning Needs" www.osc.state.ny.us/localgov/pubs/research/capitalplanning.pdf.

comprehensive land use plans. New York State should ensure that all municipal governments have the resources necessary to plan to protect the low cost ecosystem services provided by open space and reward those municipalities that actually do so.

Allow Municipalities to Establish Community Preservation Funds

Currently only a limited number of New York State municipalities have authority granted by the State Legislature to create funds—known as Community Preservation Funds—to protect open space. To expand the availability of such funds, legislation could be enacted by the State to authorize any municipality to create a community preservation fund, rather than the current practice of requiring a separate, special legislative act for each municipality. State law granting this authority to municipalities in Westchester and Putnam counties requires that these municipalities develop Community Preservation Plans that identify priorities for expenditure of funds.⁵³ Eligible voters in the respective municipalities then vote on whether or not to create a municipal funding stream to implement the plan. This two-step process for creating funds will ensure that municipalities adequately evaluate the open space values and functions desirable for preservation within their jurisdiction and that the ultimate plan adopted is supported by local residents.

Evaluate Adequacy of Protections for Lands Providing Ecosystem Services

New York State should evaluate existing regulatory programs to determine if they adequately preserve ecosystem services. For example, wetlands and buffers of natural vegetation adjacent to water bodies can retain floodwaters and remove contaminants contained in surface runoff. The DEC should determine if statewide regulation and other relevant rules and laws addressing land use in wetlands and lands adjacent to water bodies are adequate to preserve ecosystem functions on the lands in question.

Improve State-Level Planning for Open Space to Address Funding

While New York State's existing Open Space Planning process comprehensively assesses land conservation needs on a statewide basis, this process does not include identification of funding needs on a long-term basis, or identify funding sources to meet these needs. The DEC should include assessment of long-term capital needs for open space conservation and identify potential sources of funding to address these needs.

Improve Administration of Funds for Open Space Programs

The 2009 New York State Open Space Conservation Plan states that between 1996 and 2008, farmland protection projects totaling \$556 million were not funded due to insufficient program resources. These projects represent lost opportunities to promote a healthy farm economy and to preserve the watershed protection services provided by the farm lands. Given the fiscal challenges facing the State, it is critical to prioritize available funding effectively, and to ensure that it is used in areas where demand is greatest and where the potential return on the State's investment is maximized. A comprehensive assessment of administration of the Environmental Protection Fund and other funding available for open space programs should be conducted to ensure that funds are being appropriately spent and that available funding is being targeted appropriately.

⁵³ New York State Chapter 596 of the Laws of 2007.

Encourage Private Land Conservation

Programs that provide conservation assistance to private landowners, such as the DEC Cooperative Forester Program, promote land management decisions that preserve open space values on the land. In addition these programs may help landowners generate an income from their property which can obviate the need to subdivide and develop the property. New York State should explore opportunities to expand the reach of these programs through working with municipal governments and other programs like Cooperative Extension or soil and water districts that already provide educational services to landowners.

Private land trusts perform a valuable function in educating private landowners on open space values found on their property and developing land use plans that allow them to preserve these values while realizing other goals, such as earning income or allowing recreational use. New York State should explore ways to build on the success and effectiveness of existing public/private partnerships such as the New York State Conservation Partnership Program to encourage private land conservation efforts.

Consider Tax Abatements Reflecting the Value of Ecosystem Services

Numerous studies have shown that natural drainage and water purification services provided by open space can substantially reduce public expenses to provide these services. Property assessment practices that value undeveloped land based on its potential value as development lots create an incentive for landowners to convert their lands in ways that reduce or eliminate water-related ecosystem services. As natural water retention and purification functions are lost, they will have to be replaced with engineered systems administered by municipal entities and paid for by property taxes. This circumstance raises property tax rates for all residents. Studies also show that programs that preserve natural features, such as wetlands or forests (natural infrastructure), that prevent the rapid release of storm water and filter pollutants from surface water can offset the need for investments in engineered storm water management infrastructure, water purification systems and increasing capacity at sanitary sewers.

If it can be established that property tax abatement programs designed to encourage preservation of natural infrastructure provide a broad public benefit, are beneficial to all taxpayers and will not impair the ability of municipalities to provide required services, New York State should consider establishing tax abatements that encourage landowners to maintain natural storm water abatement and water purification features on their lands. This approach is supported by a 1993 report on implementation of New York's forest tax laws produced by the DEC Commissioner and the Secretary of the Board of Equalization and Assessment at the direction of the State Legislature. The report recommended that the State amend the 480-a program to allow participants to manage for a "broader array of forest values," including those addressing water quality.⁵⁴ Any such program should include protections such as those found in the 480-a program to ensure that the program accomplishes its goals and does not provide an undue benefit to large landowners or real estate speculators.

⁵⁴ *Joint Report of the New York State Department of Environmental Conservation and Board of Equalization and Assessment on The Forest Tax Laws (Sections 480 & 480a of the Real Property Tax Law)*. December 1993. www.orps.state.ny.us/ref/pubs/forestlaws/section1.htm.

Conclusion

Well-planned open space protection can work together with other initiatives designed to meet the vital needs of municipalities in economic development, affordable housing and fiscal health. Rather than conflicting with other goals, open space preservation can provide significant economic benefits. Not only does open space indirectly support industries (such as forestry, forest based manufacturing, agriculture, outdoor industries and tourism) that generate billions of dollars in the economy, it directly produces critical ecosystem services. The choice for natural drainage over an engineered replacement can translate into substantial cost savings for a municipality. This, however, is just one example of how public infrastructure costs and therefore, local taxes, can be reduced by utilizing the ecosystem services of open space.

Regional economic growth can also be enhanced by preserving open space, whether by promoting industry, maintaining aesthetic values or offering outdoor recreational opportunities. This, in turn, is linked to property values, which impact local revenue. The potential to rely upon natural ecosystem services, rather than constructing artificial replacements, directly impacts local expenditures. The interconnection among the goals of fiscal health, affordable housing and economic growth makes it ever more important to ensure that open space plans are well designed.

Well-designed plans, however, are predicated upon a thorough evaluation of a community's goals. State and local governments must clearly identify the uses of open space they wish to pursue. Since conflict can occur between different uses of open space, it is critical to ascertain the desired goals for an area. New York State reviews and prioritizes its statewide open space protection activities every three years as required in a planning process.⁵⁵ Many local governments also produce open space planning documents. By engaging in a planning process, municipalities can weigh open space protection goals in concert with other municipal goals to mitigate potential conflict.

⁵⁵Article 49, Title 2 of the New York State Environmental Conservation Law. The New York State Open Space Plan outlines New York State's goals in acquiring open space, rates potential parcels of open space and lists specific parcels of land with the preferred method of protecting the land. The Open Space Plan can be viewed on the DEC's website at www.dec.ny.gov/lands/47990.html.