7. Natural Resource Conservation

7.1 VISION STATEMENT

Yorktown's natural resources are integral to the long-term health, safety, and well-being of not only Yorktown but also neighboring towns and the region. The Town should expand efforts to preserve open space and natural resources throughout Yorktown. The ecological integrity of Yorktown's natural resources, including groundwater, streams and wetlands, trees and woodlands, steep slopes, and areas rich in bio-diversity, must be maintained and protected, even as new development occurs.

7.2 GOALS

Goal 7-A: Protect the health, safety, and welfare of Yorktown residents by conserving natural resources to the greatest extent possible, including woodlands, water resources, wetlands, threatened and endangered species, and habitat areas for plants and wildlife.

Goal 7-B: In particular, protect and maintain the supply and quality of groundwater and surface water resources, including underground aquifers, the New Croton Reservoir, and the streams that feed the reservoir.

Goal 7-C: Promote sustainable development patterns, which consume less open space and result in less automobile-dependent land uses.

Goal 7-D: Ensure that permitted land uses and development intensities are suitable with respect to groundwater and surface water resources.

Goal 7-E: Limit development on steep slopes and reduce the potential for soil erosion.

Goal 7-F: Protect the health, safety, and welfare of Yorktown residents by reducing the potential of new development to impact downstream flooding.

Goal 7-G: Seek to reduce non-point source pollution in stormwater runoff.

Goal 7-H: Encourage groundwater recharge and strive to reduce stormwater runoff levels.

Goal 7-I: Promote biological diversity by protecting open space that serves as habitat and/or breeding grounds for a wide range of species.

Goal 7-J: Preserve open space alongside streams and around water bodies, and maintain trees and other vegetation in those areas, in order to protect water quality, flood zones, habitat, and breeding grounds from encroachment.

Goal 7-K: Improve enforcement of regulations that protect natural resources.

Goal 7-L: Increase public awareness and understanding of natural resources and conservation measures.

7.3 OVERVIEW OF NATURAL RESOURCES

- Yorktown is rich in open space and natural resources. This Chapter contains policies for protecting wetlands, streams, water bodies, water quality, woodlands, wildlife, and plants and better dealing with stormwater runoff and watershed protection. In considering such issues, it is important to keep in mind certain "big picture" ideas about natural resources and open space.
- Although most of Yorktown's land area has already been developed, significant land areas are still vacant or large-lot and may be subject to development under current zoning (see Chapter 5.) Many developable sites have environmental resources, e.g., steep slopes, wetlands, floodplains, critical habitat area, etc. These remaining open spaces play an important role in the hydrology, ecology, and other natural systems of the Town and the region.
- Development on such sites is bound to have impacts on the natural environment, some insignificant, others significant. Aspects of the natural environment that may be affected include drainage and flood patterns; wetland size and function; plant and wildlife habitat areas; erosion potential on slopes and along streams; groundwater recharge; and water quality.
- Yorktown includes within its boundaries part of the New Croton Reservoir, a major source of drinking water for New York City and the region. The watershed boundary that runs east-west through Yorktown delineates the direction of water flow (see Figure 7-2.) Everything south of the watershed boundary flows into the Reservoir, and everything north flows into the Peekskill Hollow Brook. Preserving surface water and groundwater quality in Yorktown, therefore, is particularly important.
- Sprawl and its impacts are regional in scope. Likewise, natural resources like streams, water bodies, stormwater, and habitat areas ignore municipal boundaries. Thus, effective regional solutions are needed.
- Current Town policies and practices regarding natural resources, despite vast successes in promoting environmental protection, have not been foolproof. The predominant pattern of development remains low-density and auto-oriented, which tends to have greater environmental impact than more clustered forms of growth.
- During the Task Force meetings, participants expressed general support for natural resource conservation and open space preservation.
    - A diverse regulatory toolkit was discussed, and many of the tools garnered the support of the Task Force. In particular, there was support for limiting development on steep slopes, restricting clear-cutting of trees, further limiting impervious surface, and promoting energy efficiency through "green buildings."

  - At the same time, some participants felt that the Comprehensive Plan should not be overly specific, allowing the Town flexibility in deciding upon the best regulatory tools, as technology evolves and new information becomes available.
- In the Comprehensive Plan surveys, there was strong support for reducing development potential, which can help with resource conservation and open space preservation. Nearly 75 percent of respondents either agreed or strongly agreed that remaining vacant parcels should be built at lower densities than surrounding parcels.
- Because cluster development did not receive widespread support in the surveys (51 percent against, versus 43 percent in favor), it is not recommended as a general practice in Yorktown. However, in places where natural systems require large areas of undisturbed open space (i.e., flood zones and critical habitat areas), a more sophisticated kind of cluster development — called a "conversation subdivision" — is recommended in this Plan.

7.4 POLICIES

Open Space Preservation & Sustainable Development

Policy 7-1: Continue efforts to establish an Open Space Fund and identify other resources for open space preservation.

- Pursue establishment of an Open Space Fund, and establish an Open Space Committee, which would recommend to the Town Board how to use the fund.
- Use all or part of the tax revenue as seed money for the Town's proposed Density Reduction Program (see Chapter 5,) which the Town can use to preserve open space and reduce the overall residential buildout.
- Dedicate funds from the sale of in-rem properties for the purchase of open space and/or the development or improvement of recreational facilities (see Chapter 9.)

Policy 7-2: Set priorities for open space preservation.

- Implement the recommendations of the Conservation Board and the Yorktown Land Trust to establish a Hunterbrook Linear Park and to preserve open space in the Turkey Mountain Triangle.
- Potential priority sites could include:
  - Large, contiguous parcels of open space ("large" meaning parcels that are three times the size of the required minimum lot size of the underlying zoning or more.)
  - Parcels adjacent to existing parcels already preserved.
  - Parcels around lakes, ponds, or water bodies.
  - Parcels with unique natural resources.

- Parcels that are known locations of bio-diversity or have been identified as habitat areas and are part of a larger open space network that supports bio-diversity and habitat.
- Parcels under development pressure.
- Parcels that have historic resources or scenic qualities.
- Parcels that can provide recreational opportunities.
- Parcels with willing sellers, or where the property owner is interested in establishing voluntary deed restrictions or conservation easements (usually done for the tax benefits.)
- Properties presently in-rem that are also open space assets.
- Parcels that would make a significant contribution toward a particular area (i.e., areas lacking in parks or open space.)

Policy 7-3: Continue to foster partnerships with public agencies, land trusts, and foundations for open space preservation and resource conservation.

- Encourage such entities to keep up their preservation efforts in Yorktown.
- Continue to encourage the NYCDEP to purchase open space in the watershed in order to maintain the long-term quality of the Croton Reservoir water supply.
- Continue to work closely with State, County, and City agencies on natural resource protection, particularly with regard to open space preservation, stormwater controls, habitat protection, and water quality protection.
- Continue to cooperate with federal, State, and County agencies, non-profit organizations, and neighboring towns to develop effective regional strategies for growth management, water quality protection, woodland conservation, and sustainable development.

Policy 7-4: Keep meeting with project applicants to explore preservation options.

- At the outset of the review process for site plans and subdivisions, the Town currently requires landowners to meet with the Town's Planning Department for a pre-application meeting. On a case by case basis, as appropriate, continue to use those meetings as an opportunity to discuss conservation options with the applicant.
- The Town should also require applicants to meet with the Open Space Committee for the purpose of discussing open space protection.
- On a case by case basis, the Town should consider the option of offering a developer a tax abatement in exchange for open space protection. However, before offering a abatement, the Town should first exhaust other potential means of preservation.

Policy 7-5: Use Conservation Overlay Zones (COZ's) to promote resource conservation sensitive development patterns in sensitive resource areas.

- As overlay zones, COZ's would modify or supplement the regulations of the underlying zoning district.

- A number of spots in Yorktown could be overlain with COZ's, due to the presence of important natural resources in many areas. Each COZ could be somewhat unique in its purposes and regulations in order to reflect the resource(s) present.
- Potential COZ types:
  - *COZ-Aquifer*. Would be applied to areas known to have underlying aquifers. Standards would be designed to encourage groundwater recharge, so that the aquifer would continue to be replenished over time. Regulations could include: more strict impervious coverage limits; reduced curbing requirements for roadways; more limited clearing (to trap water.)
  - *COZ-Lake Communities*: Would be applied to areas surrounding lakes. Standards would be designed to limit the buildup of pollutants and fertilizers in lake waters, as well as to reduce the potential for soil erosion and siltation. Regulations could include: the same regulations as for COZ-Aquifer, plus stricter limits on clearing, stricter limits on hillside development, limits on fertilizer use, and required use of native species for new plantings (which typically need less fertilizer.)
  - *COZ-Flood Zone*: Would be applied to existing 100-year flood zones. (In some cases, the flood zone will fall into required wetland buffers and thus protected by the buffer requirement. The COZ could be applied to areas where the flood zone exceeds the anticipated bounds of the buffer.) Standards would be designed to limit development in the flood zone, so as to limit downstream flood impacts and protect new development from the risk of flooding. Regulations could include: the same regulations as for COZ-Aquifer, plus required "conservation subdivision" (see below), such that the flood zone remains free of development.
  - *COZ-Biodiversity/Critical Habitat*: Would be applied to biodiversity zones or areas where special status species have been sited. Standards would be designed to limit disturbance of wildlife habitats. Regulations could include: required "conservation subdivision" (see below); required use of native plants for new plantings; stricter limits on clearing, brush dumping, and fertilizer use; stricter protection of vernal pools.

Policy 7-6: Require conservation subdivisions in COZ-Flood Zone and COZ-Biodiversity/ Critical Habitat.

- In a conservation subdivision, development is designed around the natural resources on the site, rather than shifting around the natural resources to accommodate new development.
- This implies potentially smaller lot sizes than would normally be allowed, but there would be no more houses that would be permitted by the zoning. For example, in an R1-80 zone, the required 80,000-square foot lot size would determine how many houses could be built. The conservation subdivision would allow flexibility as to the size of each individual lot, however.
- A conservation subdivision follows a five-step design process:

(1) Map all natural resources.

(2) Calculate development yield under current zoning, excluding from the calculation wetlands and other natural resources.

(3) Locate house sites away from natural resource areas, but provide each house with proximity to or a view of adjacent open space areas.

(4) Draw in street alignments and walking paths, linking together the houses, providing access to an outside street, and (if possible) providing views of the open space preserve.

(5) Draw in lot lines around the housing sites. Thus, lot-size considerations are not the driving force in the subdivision design, but an after-the-fact formality.

Policy 7-7: Review current methods for density yield calculations in the Town's zoning regulations to consider excluding wetlands, steep slopes, and other natural features for conventional development.

- This exclusion is already done for cluster development.
- Such a measure could further reduce allowable development on sites with sensitive natural resources and would eliminate the current yield reduction involved with cluster development (thus penalizing and discouraging cluster.)
- It should be noted that density yield could be further limited during the site plan review process (over and above the natural resource deduction,) due to a variety of factors, including but not limited to topography, drainage patterns, overall subdivision layout, roadway configuration, etc.
- Because of required minimum lot sizes and wetland buffers, it is unclear whether this added measure would actually enhance protection for wetland areas or have any significant environmental benefit.

Policy 7-8: Adopt a steep slope ordinance to help limit development on unsuitable lands and address long-term erosion problems.

- Such restrictions would reduce the likelihood of soil erosion on hillsides (which are prone to erosion), not to mention rock or mud slides.
- Options for the components of the ordinance include:
  - Limit clearing and development on steep slopes (i.e., 15-25 percent), and limit disturbance on very steep slopes (i.e., over 25 percent.)
  - Require the submission of a lot grading plan. Limit re-grading that results in slopes of 25 percent or more and limit use of retaining walls.
  - Require documentation of slopes as part of development applications.
  - In case vegetation is being cleared, require utilization of Best Management Practices for the purpose of slope stabilization.

Policy 7-9: Promote energy conservation and "green" buildings.

- Update Yorktown codes to be consistent with the recently revised NYS building codes, including the energy conservation section.
- Promote energy efficient and environmentally sensitive development in Yorktown. There are at least three options for the Town to consider:
  - Update the Town code to incorporate certain Green Building standards. This approach would be best in terms of achieving environmentally sensitive design, but would be the least flexible for applicants and would not necessarily achieve the best development/design solutions.
  - Adopt a "Green Buildings" Guidebook that describes energy-efficient and environmentally sensitive building techniques that would pass Town inspection. The guidebook could explain potential cost savings or other benefits of using such techniques. The Town could then require developers undergoing subdivision or site plan review to consider the Guidebook's techniques.
  - Adopt a Green Buildings rating system, in which development applications are scored with respect to Green Building criteria. The Town could then consider the rating as part of the Town's application review process. The Town should refer to the U.S. Green Building Council's Leadership in Energy & Environmental Design (www.usgbc.org/LEED/Project/project_list.asp) for more information on rating systems.
- Require projects developed with public funding, including all Town projects, to make use of "green building" techniques. Such projects would serve as both models and test cases for private development.
- Make information available to development applicants on the State's Green Tax Credit, and strongly support and encourage applications for use of the credit.
- Educate the public about "green building" techniques and their advantages, and encourage energy-efficient habits for individuals and households.
  - Bolster public education efforts, particularly through the schools.
  - Use the Town's web site to promote conservation "best practices."
  - Send property owners a brochure with water conservation tips in their tax bills. Require landlords to provide tenants with copies of the brochure.
- Enact sprinkler legislation. Rather than limiting use of lawn sprinklers, require that new homes have moisture sensors, such that sprinklers shut themselves off when the ground is already wet or when it rains.

Wetlands, Streams & Water Bodies

Policy 7-10: Improve wetland mitigation to better preserve the functions of the original wetlands, and to help restore wetlands whose functions have been compromised due to previous development activity.

- Water bodies, streams, wetlands, and buffers serve multiple functions: habitat, flood control, stormwater filtration, etc. Strive for better preservation of original function(s):
  - Mitigation should replicate the original function, as well as replace the size.
  - Use the functional assessment currently being undertaken to identify "regular" and "exceptional" water bodies, streams, and wetlands. Exceptional wetlands would then be subject to even more stringent disturbance protections and mitigation requirements.
  - An "endangered" category could also be established, with additional standards to help restore water bodies, streams, and wetlands whose functions have been compromised over time.
  - Develop a system of wetlands trading or banking, i.e., to allow off-site wetland mitigation, with preference given to the expansion of exceptional wetlands.
- Undertake more frequent review and inspection of wetland mitigation areas, and relate inspection schedules to financial securities. Develop definition of successful mitigation and policy to ensure effectiveness.

Policy 7-11: Establish requirements for wider wetland buffers in locations with unique national resources.

- Currently, the minimum required buffer is 100 feet, but wider buffers may be requested by the Town on a case by case basis.
- Places where wider buffer requirements should be considered include:
  - Wetlands, streams, or water bodies identified as bio-diversity areas.
  - Adjacent to trout spawning waters.
  - Areas adjacent to lakefronts, ponds, or vernal pools.

Policy 7-12: Protect wetland buffers from disturbance or degradation.

- The Town already has additional limits on tree clearing in wetland buffers, over and above existing clearing restrictions. The Town should consider even stricter standards (see separate discussion in this Chapter.) Consider requiring tree surveys in wetland buffers when new development applications come forward, in order to provide a baseline for enforcing anti-clear cutting provisions.
- Within wetland buffers, consider restricting the use of fertilizers or pesticides. This rule would require further study, as it can be difficult to track and could require additional enforcement.

- Consider establishing "no-mow" zones in wetland buffers to limit disturbance and keep lawn clippings out of wetlands.
- Continue to prevent dumping of landscaping materials in buffer areas. Consider revisiting and strengthening regulatory language in the Town Code.

Policy 7-13: Conduct a survey of vernal pools in Yorktown, using a clear and reasonable definition of a vernal pool, and consider regulatory options.

- After a survey is completed, explore potential regulatory approaches and the impacts of such approaches on property owners and developers. One potential approach is to require identification of vernal pools during subdivision and site plan application processes and then to require a conservation easement over such areas.
- Vernal pools are not currently recognized under the State's wetland regulations. Support efforts by the State to amend current wetland definitions and regulations to include vernal pools.
- Strive for effective protection of vernal pools, but also adopt a regulatory approach that respects private property rights and allows flexibility for property owners. Explore the use of incentives to encourage vernal pool protection. Avoid regulations that could unreasonably limit the use of private property pursuant to the Town's zoning regulations.

Woodlands, Wildlife & Plants

Policy 7-14: Strengthen the Town's anti-clear cutting regulations, particularly with respect to wetland buffers and steep slopes.

- Current regulations require an erosion and sediment control permit for the clearing of any vegetation in areas greater than 5,000 square feet or the cutting of more than 10 trees of six-inch DBH (diameter a breast height) within a 5,000 square foot area within a twelve-month period (Town Code §165-6.)
- Options:
  - Adopt more strict thresholds (i.e., less than 5,000 square feet, less than 10 trees, or less than six-inch DBH) for the purpose of determining whether an erosion and sediment control permit is required. This means that more clearing activity would be required to obtain a permit.
  - Adopt more strict thresholds only for wetland buffers or steep slopes (see separate discussions in this Chapter.)
  - Adopt even more strict tree removal and replacement regulations for wetland buffers. One option is to require 1:1 tree replacement using native species. Another option is to prohibit all tree clearing within the buffer for the 50 percent of the buffer located closest to the wetland.

- Adopt more specific standards for soil stabilization in cleared areas, particularly for areas on steep slopes or adjacent to wetlands (i.e., requirement that most effective Best Management Practices be utilized.)

Policy 7-15: Encourage use of native plant species for landscaping, and discourage the use of invasive plant species.

- Make information about native and invasive plants available at Town Hall, the Library, and on the Town's web site.
- Stipulate that all new landscaping required in the zoning code (primarily for commercial sites) make use of non-invasive native plants.
- Landscape all Town-owned properties with non-invasive native plants.
- Encourage the County and the State to plant native species alongside roadways, in roadway medians, or on other land under their ownership.

Policy 7-16: Continue to work with adjacent communities and environmental organizations like the Metropolitan Conservation Alliance and the Hudsonia Institute to develop strategies for protecting bio-diversity in Yorktown.

- Information emanating from the Bio-diversity Study should be used to identify and consider additional methods of natural resource protection. More specifically, develop policies that will provide protection to areas that are found to be rich in bio-diversity.
- Train staff and volunteers in bio-assessment methodologies.
- Develop standards for use during the SEQRA process for wildlife and bio-diversity assessments. Require that these assessments be conducted by qualified biologists.
- Pursue intermunicipal agreements necessary to implement MCA bio-diversity recommendations.

Stormwater, Drainage & Flooding

Policy 7-17: Adopt a stormwater ordinance to implement the Phase II Storm Water Program.

- Continue to implement the Town's 5-year plan in the six measurable goal categories of Phase II.

Policy 7-18: For newly developed areas in Yorktown, consider establishing stormwater management districts or other funding mechanisms. For existing privately owned stormwater devices, provide incentives for proper maintenance.

- The Town should assume management of all newly created stormwater management districts, as condition of subdivision of site plan approval.

- The Town assumes ownership of new devices that are part of residential development, but not those that area part of commercial development, which remain privately owned and maintained.
- Options for maintenance incentives include the following:
  - Offer funding assistance with stormwater maintenance and upgrading, provided the owner or association follows Town guidelines. Adopt a Best Management Practices guide for this purpose.
  - Offer owners and associations the option of Town maintenance and upgrade in perpetuity, provided that the Town is compensated for the service and/or that the devices are conveyed to the Town.

Policy 7-19: Continue to maintain and improve Town-owned stormwater devices as needed.

- Develop a schedule for regular maintenance.

Policy 7-20: Strive for better regional coordination of stormwater management and flood control.

- Explore the feasibility of establishing a regional stormwater management district, in conjunction with adjacent municipalities.
- Strive for regional planning of stormwater infrastructure.

Policy 7-21: Revisit impervious surface standards and establish performance standards that further encourage on-site recharge of stormwater.

- Options include:
  - More strict building and impervious coverage limits.
  - More stringent coverage requirements for sites with on-site private wells.
  - Allowing driveways, sidewalks, and portions of parking lots to have pervious surfaces (e.g., gravel or pavers, instead of cement or asphalt.)
  - Reduced road width requirements. To maintain emergency accessibility, make up for the reduced roadway width by limiting the number of permitted dead-end or cul-de-sac streets, providing most streets with two means of access, and providing each subdivision with at least two access points.
  - Reduced curbing requirements for new residential streets.
  - Allowing curbing alternatives (i.e., pavers or wooden barriers) in parking lots.
  - Increased landscaping requirements for parking lots.
  - Requiring smaller, more regularly placed swales.
  - Requiring conservation subdivision design (see separate discussion in this Chapter), which preserves larger areas of open space and requires fewer, shorter roadways, both of which are better for stormwater recharge.

- Explore additional creative stormwater devices through the State's Guidelines for Reducing Storm Water Impacts, as well as through books, on-line information, model ordinances from the Center for Watershed Protection.

Policy 7-22: Strengthen Yorktown's erosion and sediment control regulations.

- These are found in Chapter 165 of the Town code. Currently, the code references the standards and guidelines of other sources (e.g., the USDA Soil Conservation Manual and various County sources.) It allows applicants flexibility in determining what standards to employ in their required erosion and sediment control plans.
- Controls could be based on potential soil-loss calculations or proximity of sensitive resource areas (i.e., wetlands, bio-diversity zones.)

Policy 7-23: Complete the Town's GIS mapping project of stormwater devices, and consider adding new data layers that can contribute to the Town's understanding of natural systems and changes in the natural and built environments.

- Require applicants to submit stormwater GIS information to the Town.
- The Croton Plan is tracking impervious surfaces in the New Croton watershed. The Town should further explore what information might become available to the municipality through that effort.
- The Town's GIS system already shows building footprints and some impervious surfaces. The Town should review its current database to identify gaps.

Policy 7-24: Work with the Federal Emergency Management Agency (FEMA) to update flood hazard area maps for Yorktown.

- Work with the New York Department of Environmental Conservation to request that FEMA update the flood hazard maps. This is necessary to help understand current flood hazards, which may have changed due to development activity since 1993.

Policy 7-25: Undertake an outreach program to instruct residents about how to reduce stormwater runoff and maintain stormwater devices.

- This effort should be part of overall educational efforts on the part of the Town with respect to natural resource protection.

Water Quality, Watersheds & Aquifers

Policy 7-26: Work with the County to consider requiring septic tank maintenance and/or pump-outs.

- Septic systems are regulated by the County Health Department, and municipalities cannot adopt their own regulations for septic systems. Despite its broad authority over

system systems, the County does not currently require tank maintenance or pump-outs.

- The County has published Best Management Practices for septic maintenance and requires septic system contractors to be licensed.[1]
- Proper maintenance and pump-outs can help prevent malfunctions, which could contaminate water resources or create other public health hazards.

Policy 7-27: Explore ways to limit the use of fertilizers, pesticides, and herbicides in areas with sensitive natural resources.

- Develop an ordinance that restricts or bans the use of fertilizers, pesticides, herbicides etc. in certain areas, such as lake communities.
- Explore ways to provide additional information to homeowners' associations about use of fertilizers, pesticides, and herbicides.

Policy 7-28: Develop an Integrated Pest Management program for all Town properties, including parks, and encourage the school districts and private property owners to follow suit.

Policy 7-29: Consider bolstering current regulations regarding wastewater disposal or recycling for car washes or other water-intensive uses.

- The Town code already restricts the discharge of wastewater or other polluted waters into storm drains, and it also restricts the disposal of hazardous liquids into sewers (Chapter 240.)
- The Town should codify the current practice of requiring recycling and trucking away of wastewater for car washes.

Policy 7-30: Consider using innovative, environmentally sensitive alternatives or improvements to de-icing practices.

- The Town currently uses a salt liquid solution.
- Other options could help reduce chloride levels in surface water. Possible alternatives include, but are not limited to, liquid chemicals such as calcium magnesium acetate and potassium acetate. Such liquid chemicals vary widely in their environmental sensitivity, corrosiveness, effectiveness in reducing ice build-up, and cost. Because they have not been extensively used, their long-term impacts are not well understood.
- Consider establish reduced road salt and sand areas in environmentally sensitive areas, such as lakeside communities.

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[1] Westchester County Department of Health, *Water Quality Management Program: A Homeowner's Guide: Best Management Practices Manual for Individual Sewerage Systems*, January 2002. Natural Resources Defense Council, *Long Island Sound Municipal Report Cards Environmental Assessments of 78 Coastal Communities: Westchester County, NY*, www.nrdc.org/water/pollution/lis/swest.asp.

Policy 7-31: Continue working with the NYCDEP, the County, and adjacent municipalities to complete the Croton Plan, and update the Yorktown code for consistency with the Plan.

- Advocate for balanced, implementable recommendations that will help improve the Town's zoning regulations.

Policy 7-32: Continue to explore whether additional underground aquifers exist in Yorktown.

- Work with the U.S. Geological Service, the State's Department of Health, Westchester County GIS, and other concerned agencies to investigate this issue further.
- To help move the process along, provide USGS with access to the Town's informational resources (i.e., the GIS database) that could help with the effort.

Enforcement & Education

Policy 7-33: Develop data sources and procedures that can be used during the development review process to protect Yorktown's natural resources.

- Expand efforts to conduct baseline field inventories of properties that potentially support bio-diversity. Use the baseline inventories, combined with other regional data to develop a bio-diversity map, which can then be used to make biologically sound decisions during the planning process.

Policy 7-34: Continue to enhance the Town's environmental enforcement capabilities.

- In order to implement recommendations of this Chapter, the Town's inspection and enforcement needs will increase. The Town should consider any appropriate strategies for keeping up with those needs.

Policy 7-35: Increase use of the Town's GIS system for enforcement purposes.

- Continue to use the Town's GIS system to map conservation easements, wetland buffers, steep slopes, and other restricted lands. Make the delivery of GIS information from applicants a condition of bond recovery.
- Use the GIS system to help track compliance and inspection efforts.

Policy 7-36: Establish volunteer programs to aid in monitoring conservation areas.

Policy 7-37: Improve public education and informational resources.

- Work with the school districts to sponsor educational programs to teach school children about the importance of environmental stewardship and about the tools that can be used to clean up and protect the natural environment.

- Expand the Stream Study Program currently offered at the Yorktown Middle School and High School to the Lakeland School District.
- Distribute Best Practices Manuals at community events (see separate discussions throughout this Chapter.)
- Develop pamphlets and/or an informational packet with pertinent environmental regulations, maps, and best management practices. Make them available at Town Hall, the Library, and at public events. The Town's web site should include a page with such information available.
- The Town should consider undertaking a multi-year media outreach program, using a combination of radio, television, newspaper, and internet media, for the purposing of educating the general public about natural resource conservation efforts. The program should focus on one major topic area for every four to six month period.
- Possible topics for the media campaign include: (1) stream bank erosion and stabilization; (2) environmentally sensitive patio and deck design; (3) maintenance of detention basins; (4) proper disposal of landscaping debris/brush; (5) illegal disposal into stormwater drains; (6) proper use of fertilizers and pesticides; etc.

Policy 7-38: Establish a procedure for processing calls, information requests, and other inquiries.

- Currently, there is no single place for residents to call about environmental concerns. Calls are currently received by the Planning Department, the Building Department, the Environmental Code Officer, and the Environmental Conservation Department.

APPENDIX TO CHAPTER 7: EXISTING CONDITIONS REPORT

Wetlands, Streams, & Water Bodies

See Figure 7-1.

- The Conservation Board's 2001 Annual Report evaluated 23 wetland-related permits that were finalized by the Town in 2001. Based on that investigation, the Conservation Board found: (1) a wetland area loss of 4,250 square feet, with a mitigation gain of 6,075 square feet; (2) a loss of 39,602 square feet of wetland buffer, which includes "any project activity that takes placed within the original one hundred or fifty foot [required buffer] area." Buffer mitigation gain was not tracked.
- Yorktown has also experienced some wetland segmentation.
  - One example is along the south side of Route 202 in Crompond, where parts of wetlands were filled in over time, leaving smaller, fragmented wetlands connected by culverts. There may be other such examples in Yorktown, although a comprehensive study has not been done for the purposes of the Comprehensive Plan.
  - Such fragmentation is problematic from the viewpoint of hydrology and ecology. Such smaller pieces, when cut off from a larger wetland system, are changed in their function.
- Wetland mitigation requirements presently do not consider wetland function but require only that an area the same size as the filled wetland be re-created elsewhere. As a result, according to the Town's Environmental Code Officer, some wetland mitigation projects have not re-created the original wetland function. Others have been overcome by invasive species, compromising their effectiveness.
- Yorktown has a Freshwater Wetlands and Watercourse Protection Law, Chapter 178 of the Town Code.
  - Development in wetlands, watercourses, and buffer areas is not strictly prohibited, but a permit is required. Regulations require a 100-foot buffer around wetlands and watercourses greater than 1 acre in size.
  - The goal of the law is to achieve no net loss of wetlands and wetland buffer areas. The law is also intended to ensure that activities in and around wetlands and watercourses do not threaten public safety or welfare, the natural environment, or cause nuisances by:
    - Exacerbating flood impacts,
    - Increasing erosion,
    - Increasing water pollution,
    - Intruding on sensitive habitat areas,
    - Interfering with species ability to feed,
    - Impeding wetland recharge or discharge,
    - Altering wetland hydro-periods,

    - Destroying educational sites,
    - Interfering with public navigation rights or recreational opportunities,
    - Destroying or damaging significant views and aesthetics.
  - Yorktown has developed a more stringent definition of a wetland than the State by including not only areas inundated with water, but also areas over 1,000 square feet with hydric soils and/or having enough water to sustain hydric plants.
- A functional assessment of Yorktown's wetlands is currently being undertaken. It will examine habitat, flood control, and other functions of wetlands.
- The Town has a "Stream Team" that monitors flood/drainage impacts (resulting from upstream development, sedimentation), habitat quality and change, stormwater runoff (water quality, sedimentation), and bank stabilization.
- The Town currently has a Stream Study Program with students at the Yorktown Middle School and High School.
- The Town is participating in a stream evaluation study being done by the Westchester County Department of Planning, which will examine all the streams in the New Croton watershed. The study will culminate in a report on the conditions of streams.
- Vernal pools are found through Yorktown. Vernal pools are seasonal wetlands that are saturated with water during wet periods (particularly in the springtime, due to the combination of snowmelt and rainfall, but also in the fall) but which dry up and disappear the rest of the year. They are usually not connected to wetland or waterway systems.
  - Despite being ephemeral, vernal pools tend to appear in the same locations year after year and serve important hydrological and ecological functions. Although lacking fish populations, they often provide temporary homes for frogs, salamanders, birds, and other species, with high levels of biodiversity. They are sometimes used as breeding grounds. Vernal pools also link larger wetlands, serving as important migratory paths.
  - Because they are impermanent, it is quite common for vernal pool areas to be developed or cleared.
  - Yorktown currently does not track the location of vernal pools or regulate development that may occur in vernal pools.

Woodlands, Wildlife & Plants

- Wetland areas, stream corridors, lakefronts, and water edges are some of the most rich in terms of woodlands, wildlife, and plant species.
- Yorktown has extensive woodland areas, particularly in the southern part of the Town. During construction and development, there have been instances of excessive clearing of trees and vegetation. This can accelerate erosion and destroy habitat.

- Often, newly developed sites are landscaped with plants that are not native to the Hudson Valley region. Sometimes, such plants have a lower likelihood of survival, because they are not well-suited to the climate or rainfall levels. In other cases, such plants do so well that they consume an excessive amount of water and soil nutrients or they proliferate very quickly. These are so-called invasive plants can choke out native plants and change the complexion of habitat areas.
- A Biodiversity Study is currently being undertaken by the Metropolitan Conservation Alliance (MCA) to identify critical habitat areas in Yorktown, New Castle, Putnam Valley, and Cortlandt. The emphasis of the study is not simply to identify where certain individual species have been sited (the typical approach), but areas that are likely to support a rich ecosystem of species. The analysis and maps are expected to be complete in 2004.
- The Town is part of the Hudsonia Biodiversity Assessment Training with the Town of Cortlandt. This will train local decision-makers on biodiversity assessment with one of the goals being to develop an inter-municipal preservation agreement.

Stormwater, Drainage & Flooding

See Figure 7-2.

- Historically, stormwater has not been the subject of comprehensive planning. As individual development projects have come forward, stormwater has simply been channeled off into adjacent streams and water bodies.
- The Town's stormwater infrastructure is currently being mapped on GIS.
- New development, by clearing trees and vegetation and increasing the amount of impervious surface, tends to increase the volume of stormwater runoff a site. This can result in stream bank erosion and downtown siltation, as well as downstream flood impacts.
  - Since development has occurred and continues to occur incrementally over time, the floodplains may change with each passing year.
  - The Federal Emergency Management Agency (FEMA) is the prime source of flood zone maps nationwide. FEMA maps for Yorktown are current through 1993, but due to development since that time, the maps may now be out of date. Major deviations from the FEMA maps are not anticipated, in that flood hazard areas are still expected to be concentrated around wetlands, streams, and water bodies, but those flood areas may now be narrower or wider in some areas.
  - Currently, the Town requires new development to be designed for a combination of containment (i.e., recharge) and drainage. Further study of the effectiveness of these requirements may be warranted.
- Another problem resulting from the increase in impervious surface and stormwater runoff is that less water is re-absorbed into the ground, meaning that underground aquifers are not fully recharged.

- According to Comprehensive Plan's traffic consultants, some roadways in Yorktown are extremely wide (e.g., parts of London Road.) Overly wide roads unnecessarily increase impervious surface. Uniform use of curbing along roads, parking lot edges, and even residential driveways increases the amount of water channeled into storm drains and streams.
- The Town's Conservation Board has posted on the Town's web site a list of strategies that residents and businesses can use to encourage more groundwater recharge. These include:
  - Plant trees and shrubs to minimize surface runoff.
  - Divert stormwater onto vegetated areas instead of paved surfaces or pipes.
  - Use paving surfaces that allow rainwater to soak into the ground, i.e. wood decking, bricks, interlocking stones, or porous asphalt.
  - Wash the car on the lawn, instead of the asphalt.

Water Quality, Watersheds & Aquifers

- Stormwater runoff may contain pollutants, such as fertilizers and pesticides, loose garbage and litter, improperly disposed household chemicals, animal droppings, human waste from malfunctioning or improperly maintained septic systems, and oil and rubber particles from automobiles.
  - This negatively impacts surface water quality and habitat areas. It partially contributed to the algae problem in many of the Town's lakes.
  - It is also poses a threat to public health, because stormwater flows into aquifers and reservoirs that are used for drinking water.
- The Conservation Board has posted on the Town's web site a list of strategies that residents and businesses can use to reduce the potential for polluting stormwater runoff. These are as follow:
  - Use fertilizer sparingly (or not at all) and according to directions.
  - Check cars for leaking oil and other fluids and make any needed repairs.
  - Pick up and properly dispose of pet waste.
  - Pump out the septic tank often, usually every one to three years, so that solids do not build up and flow into the leaching system.
  - Never use sinks or toilets to dispose of household chemicals.
  - Do not use drains for disposal of solid waste.
- EPA's Phase II Storm Water Program
  - Intended to reduce water pollution resulting from stormwater runoff
  - Requires a stormwater management program that includes (1) public education and outreach; (2) public participation; (3) illicit discharge detection and elimination; (4) construction site runoff control; (5) post-construction runoff control; (6) pollution prevention/good housekeeping

  - The program must also establish Best Management Practices and measurable goals.[2]
  - Yorktown is in the process of implementing this program.
- Under the Federal Clean Water Act, developers of construction sites meeting certain thresholds must obtain a stormwater discharge permit from the State's Department of Environmental Conservation (DEC.)
- Yorktown has received grants to determine the effectiveness of stormwater Best Management Practices and also to construct a stormwater wetland (biofilter) at Lexington Avenue to attenuate point discharge into the Hunterbrook wetlands.
- Yorktown has two drinking water watersheds: Croton Reservoir and Peekskill Hollow Brook. Storm drains empty into streams, which empty into these surface water bodies.
- The New York City DEP plays an important role in shaping development and conservation in the New Croton watershed (85 percent of Yorktown is in the watershed, roughly everything south of Route 6) for the purposes of protecting the City's water supply.
  - The DEP's Bureau of Water Supply (BWS) manages and operates the City's entire upstate water supply system and oversees the Watershed Protection Program, which is composed of various different initiatives (from land acquisition to septic remediation.)
  - The Croton Plan is being jointly developed by the DEP, Westchester County, and Putnam County to identify sources of pollution in the watershed and recommend ways to improve water quality and meet DEP water quality standards.
  - DEP approval is required for certain types of development and activity, including wastewater treatment plants, package plants, hazardous materials storage, solid waste disposal, etc. Because the Hallock's Mill sewage treatment plant is currently operating over capacity and water quality does not meet certain DEP standards, the DEP has placed a moratorium on allowing any additional sewer connections in that sewer district.
- A map of unconsolidated aquifers was prepared by Westchester County in 2001. The aquifer information was obtained from the NYS GIS Clearinghouse and created by NYC Department of Health, Bureau of Public Water Supply Protection.
  - That map identifies one aquifer in Yorktown, located roughly along Route 118, just south of the Front Street office/industrial area in Yorktown Heights. It was classified as being able to yield 10 to 100 gallons per minute. It is relatively small in size compared to other aquifers throughout the county.

[2] EPA, Fact Sheet 1.0: Storm Water Phase II Final Rule: An Overview, <www.epa.gov/npdes/pubs/fact1-0.pdf>; EPA Fact Sheet 2.0: An Overview of the Small MS4 Storm Water Program, <www.epa.gov/npdes/pubs/fact2-0.pdf>.

Steep Slopes

See Figure 7-3.

- Parts of Yorktown have slopes in excess of 15 percent, which are considered very steep. Such steep slopes pose difficulties in construction, and the disturbance of such slopes could accelerate erosion.
- Based on State law and case law, development on steep slopes can not be entirely prohibited, but the amount of development can be further limited over and above what would normally be permitted under the zoning.

Enforcement & Education

- Federal, State, and County agencies, as well as the City DEP, will all continue to play a strong role in local environmental regulation and enforcement. Natural resources are currently regulated by many different agencies at all levels of government:
  - The U.S. Environmental Protection Agency (EPA) has required stormwater planning; its tracks/lists endangered species.
  - The New York State Department of Environmental Conservation (DEC) requires environmental review of significant planning or development projects; it regulates surface water discharge, such as from wastewater treatment plants.
  - New York City's Department of Environmental Protection (DEP) is responsible for reservoir oversight and watershed protection.
  - Westchester County is responsible for septic approvals and is involved in New Croton watershed planning.
  - The Town of Yorktown reviews proposed development applications and is responsible for environmental enforcement.
- Effective implementation requires not only government oversight, but active involvement of residents and businesses. Making education programs and information available can help promote environmentally sensitive habits and practices. Volunteer programs can also assist with enforcement.

Figure 7-1: Wetlands, Streams and Water Bodies

Figure 7-2: Drainage and Floodplains

Figure 7-3: Steep Slopes