

Appendix F - Generic Watershed Planning Tools

Goal	Tool	Description
<b>Identification of Community Goals &amp; Sensitive Resources</b>	Master Plan & Natural Resource Inventory	Document provides the municipality with a comprehensive database and planning tools to achieve set community objectives that are compatible to other local and regional plans and concerns. The document that allows municipality to identify environmentally sensitive areas and those areas of the municipality which, due to inherent characteristics, would generate disproportionate amount of stormwater runoff or pollutants to these areas. These areas would comprise an Environmental or Natural Resources Inventory. A good master plan would direct development away from these areas or subject development in these areas is subject to additional controls. Also natural features can be protected, utilized to control stormwater while also providing a community benefit such as passive/active recreation.
<b>Protecting Surface Water</b>	Riparian & Wetland Buffers	Require vegetative area bordering streams and wetlands.
	Soil/Slope Stabilization	Require erosion control plan with measures, schedule and temporary and permanent vegetative stabilization measures.
	Pooper Scooper Law	Require cleanup of pet waste by pet owner and/or pet walker to limit degradation of water quality.
	Waterfowl Feeding Ordinance	Prohibit feeding of waterfowl to limit accelerated eutrophication of ponds and excessive bacterial loading.
<b>Protect WQ by Preserving Open Space</b>	Conservation Easements	Property owner sells the development rights within the easement while retaining fee ownership of the property. The easement restrict the present and future use of the land for a specified period of time. Typically used to protect part of a parcel that is environmentally sensitive resource or has a high potential for disturbance to resource.
	Fee Simple Acquisition	Purchase or donation of land for preservation purchases and associated nonpoint source control functions.
	Exaction (land for recreation or fee in lieu thereof)	A fee or contribution of cash or property required of a developer as a condition of receiving development approval. Purpose of contribution is to cover costs or land areas necessary for new or expanded public capital facilities required to serve that development. Often land contribution is offsite of development. Often associated with subdivision regulations. Includes development impact fee, in which developers are required to pay a tax or user fee to cover the costs of municipal services to the new development.
	Transfer of Development Rights	Shifts future development potential from an area (sending site) that is determined to be environmentally sensitive or unsuitable for development to an area deemed more suitable (receiving site). The development potential can be measured in many ways (I.e. # of parking spaces, # of dwelling units, square footage, acres,...) To work receiving and sending sites should be identified and evaluated, program should be simple and flexible and program use should be promoted and facilitated.
	Land Trusts	Work with or establish publicly or privately sponsored nonprofit organizations with goal of land trust holding lands or conservation easements for the protection of habitat, water quality, recreation or other goal. Trust may also pre-acquire properties that are conservation priorities if trust enters the development market when government funds are not immediately available by acquiring bank funding with the government as guarantor.
	Land Banks	Land banks usually accomplished with a transfer tax established by state government empowering local government to impose a tax on the transfer of land from one party to another. Used to acquire and protect land within critical areas.
<b>Protecting WQ by Managing Growth &amp; Development</b>	Cluster Zoning/Average Density Development	Require clustering of development to preserve open space or protect sensitive lands. If not required, offer development credits or allowances for increased lot coverage in smaller footprint of buildable land when clustering done to protect environmental sensitive land or preserve open space.
	Planned Unit Development	A planned combination of diverse land uses, such as housing, recreation and shopping, in one contained development or subdivision. Enables creative land uses which emphasize flexibility and open space. Usually, there is a common area or open space that is under the control of a homeowners' association.
	Environmental District such as Overlay Protection District & other land use approaches	Creation of overlay districts for the protection of environmentally special features or areas which preclude or limit development. The district may encompass not only environmentally sensitive areas but also areas that have potential to generate large amounts of stormwater runoff to these environmentally sensitive areas. Linked to Natural Resources Inventory. Can address wetlands, floodplains, open space, etc.
	Land Development Regulations	Working with a master plan, these regulations can guide development patterns away from areas that provide water quality benefits or are sensitive to disturbance or pollutant loadings. Example is urban service boundary marking an area in which the municipality will not provide infrastructure keeping land use densities low.
	Zoning	Zoning offers municipalities the prevent the incompatibility of neighboring uses and restrict uses that are harmful to the health and well-being of the community and its resources. Numerous tools including overlay districts, protection areas, design and performance standards, special use permits, setbacks, impervious surface restrictions and clustering.
	Impervious Surface Restrictions	Limits on total amount of impervious cover per buildable lot. This facilitates the recharge of the aquifer while decreasing the production of surface runoff.
	Wetland and Stream Corridor Protection	Zoning regulations that exclude wetlands, streams, wetland buffers and riparian buffers from calculated "buildable" envelope of lots and requiring specific size of natural vegetative buffers maintained in perpetuity. May also limit development in these buffers to allow reasonable use of the property (I.e. docks).
	Site Plan Review	Trigger site plan review for not only specified number of lots but also development in delineated sensitive areas, development of a certain intensity or other chosen characteristic. Enables requirements for erosion and sediment control plan review and approval prior to issuance of permits, allows municipalities to provide guidance on appropriate pollution prevention measures, set design and performance standards for measures, and conditioned approval to ensure integrity of environmentally sensitive areas and areas necessary for maintenance of water quality.
	Design & Performance Standards	Require specific land uses that have the potential to adversely affect water quality to incorporate nonpoint source control measures into design, set threshold for water quality, set performance standards for measures and require maintenance schedule and designation of responsible parties. Performance standards are used to regulate development by enforcing pre-determined standards for water quality. Allows for aggressive protection by limiting development within critical areas to an acceptable level.
	Growth Controls/Timing	Growth controls in the form of building caps, subdivision phasing or other limitation tied to planning concerns. Used to time the occurrence of development within critical areas.

TABLE 8 - WATERSHED PLANNING TOOLS

Goal	Tool	Description
<b>Protecting WQ by Regulating Alterations to Topography</b>	Stormwater Management Ordinance	Local regulations that limit the increase in development-related pollutant loading following development or establish performance standards for the treatment of the quantity and quality of runoff. May require pre- and post-development pollutant load analyses for evaluation of development proposals and for the need for stormwater management BMPs.
	Erosion Control	Guidelines to safeguard property and the environmentally sensitive areas from erosion and sedimentation. Outlines the components of erosion and sediment control plan and permit requirements.
	Steep Slopes Protection	Regulations that exclude steep slopes from calculated "buildable" envelope of lots and if development is allowed, provide guidelines.
<b>Protecting Water Quality</b>	Septic Management Ordinance	Require inspection report and proof of pump out upon transfer of a property or every third to fifth year with payment of property taxes. Zoning regulations may be altered for new development or redevelopment in environmentally sensitive areas or poor soils to install advance forms of on-site waste water treatment systems. Can also be used to prohibit application of certain solvent septic cleaners that are known water contaminants. If possible offer incentive to upgrade faulty systems.
	General Requirements for Environmentally Sensitive Lands	Site plan requirements dictating protective measures. No build area for defined sensitive lands/resources and prescribed buffers.
	Conservation Comm. review of regulated activities	Conservation Commission reviews development and regulated activities that may affect environmentally sensitive lands. Provides recommendations to Planning and Zoning Boards.
	Treatment BMPs	Regulations regarding treatment BMPs operation and maintenance requirements and designation of responsible parties.
	Privately owned small sewage treatment plants	Ordinance prohibiting plants within environmentally critical areas. Adopt special permit or performance standards for use within critical areas.
	Toxic & Hazardous Material Handling Regulations	Ordinance requiring registration and inspection of all businesses using toxic/hazardous materials above certain quantities. Used to ensure proper handling and disposal.
<b>Education, Recycling &amp; Source Controls</b>	Automotive Product Disposal	Education on appropriate recycling, disposal and identification of community automotive products recycling centers.
	Commercial & Retail Space Good Housekeeping	Education on solid waste management, spill response, erosion, control, promoting porous pavements; using dry cleanup techniques vs. wet techniques (hosing down sidewalk); limiting direct runoff of rooftops to storm drains.
	General Community Outreach	Education on sources and control measures for nonpoint source pollutants.
	Industrial Good Housekeeping Marina & Boating	Education on use and impact to water quality, contaminant procedures, solid waste management, spill response, maintenance of parking lots and transfer areas, pollution prevention opportunities, etc. Education on storage of fuel, toxic materials, spill response, solid waste management, use of MSD pump out stations, fuel & painting operations, erosion control & habitat protection
	Storm Drain Inlet Stenciling	Educational program to stencil drains to reduce illegal dumping of litter, leaves, pet waste and toxics down stormwater systems and ultimately to surface waters. Involve public to do stenciling and publicize program.
	Pesticide/Herbicide Use	Education regarding adverse effects to water quality, less toxic alternatives, benefits of reduced and proper use and reduce applications. Encourage vegetative buffer between surface water/sensitive resource and areas treated.
	Fertilizer Use	Education regarding fertilizer regulations/laws and water quality benefits of reduced fertilizer applications and proper application timing.
	Household Hazardous Material Disposal	Encourage use of biodegradable cleansers and other alternatives to hazardous chemicals. Provide drop-off locations for proper disposal of household hazardous materials.
	Lawn Debris Management	Encourage proper onsite recycling of yard trimmings, prohibit placement of yard waste (leaves, sand, grass clippings) into street, provide curb pickup of yard trimmings.
	Pet Waste Disposal	Education on pet waste effects on water quality. Encourage no feeding of waterfowl. Enact and educate regarding pooper scooper laws.
	Illicit Discharge Detection and Elimination	Encourage cleanout every 3 years, discourage use of septic system additives, educate about bacterial loads from septic and adverse impact to water quality. Encourage voluntary dye testing/tracing and offer assistance with cleanouts and/or replacement of system. Educate about proper maintenance and operation.
<b>Maintenance Practices</b>	Catch Basin Cleaning	Regular and periodic cleanout program.
	Street & Parking Lot Sweeping	Periodic sweeping program with frequency increased near end of winter/early spring.
	Road & Ditch Maintenance	Periodic inspection and cleanout of floatables, loose debris, stabilize erosion, planting in early spring to stabilize with vegetation where appropriate.
	Road Salting & Sanding	Minimize salting and sanding operations as much as possible. Investigate alternatives best suited to water quality goals.
	Sediment & Floatables Removal from BMPs	Periodic inspection and cleanout of sediment and floatables from BMPs depending upon BMPs and design criteria. Inspections should be conducted at least quarterly.
	Vegetation Maintenance	Regrade and replant vegetative areas in early Spring. Mowing if necessary. Maintain throughout growing season. Stabilize with erosion control measures if cannot vegetatively stabilize through winter.
	General BMP Maintenance	Provide staff and funding for regular and periodic maintenance.

**Sources:**

National Wildlife Federation, Citizens Campaign for the Environment, Suffolk County Planning Commission. 2015. Managing Stormwater - Natural Vegetation and Green Methodologies Guidance for Municipalities and Developers V.2.0, Suffolk County <http://www.epa.gov/OST/stormwater/> March 6, 2005.  
 USEPA 1997 Coastal Protection Program, Workshops in Innovative Management Techniques for Estuaries, Wetlands and Near Coastal Waters, April 29-30, 1997  
 NYSDEC 1996 Brochure: Protecting Water Quality: A Survey and Compendium (document out of print)  
 USEPA. 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters