

Appendix A: List of BMPs used in the Assessment Form

1. Development

a. Existing Development

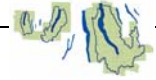
1-01	Identify retrofit opportunities	1-11	Encourage water conservation
1-02	Identify habitat and natural conveyance system restoration opportunities	1-12	Develop outreach programs targeted at specific problems related to water quality management & resource conservation
1-03	Establish retention/detention areas		
1-04	Acquire additional land for locating treatment facilities	1-13	Encourage proper control of pet wastes
1-05	Encourage homeowners to place compost piles away from waterbodies and roadways	1-14	Encourage continued operation of private storm water runoff control structures
1-06	Encourage proper use and disposal of lawn and other household chemicals	1-15	Discourage feeding of waterfowl
1-07	Institute turf management practices on golf courses and parks and recreation areas	1-16	Discourage the introduction of exotic aquatic species (Eurasian water milfoil, zebra mussels, water chestnut, etc)
1-08	Undertake storm drain stenciling	1-17	Encourage continued (periodic) operation and maintenance of private septic disposal systems
1-09	Encourage volunteer programs, such as adopt-a-highways and adopt-a-stream, etc.	1-18	Effective and consistent application and enforcement of stormwater regulations & requirements
1-10	Include high percentage of indigenous plants in new landscaping on privately-owned properties (excluding arboretums, horticultural gardens, and sites requiring turf grasses)	1-19	Require certification of existing on site septic systems for property transfers or building expansions.
		1-20	Require entire property (existing as well as proposed) to be included in stormwater analysis/calculation.



(Development, continued)

b. New Development and Substantial Redevelopment

1-21	Minimize the amount of land disturbed and the duration of disturbance	1-32	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling
1-22	Preserve natural features and conform substantially with the natural boundaries and alignment of waterbodies	1-33	Encourage construction site management techniques which include the proper handling and disposal of pesticides and petroleum products and containers
1-23	Retain and protect trees and other natural vegetation on and near disturbed sites	1-34	Ensure proper operation and maintenance of runoff management facilities
1-24	Account for topography and soil type in efforts to minimize erosion potential	1-35	Target training for contractors, inspectors and zoning and planning officials.
1-25	Maintain runoff rates similar to pre-construction levels	1-36	Require tree surveys and/or cutting plans.
1-26	Minimize the creation of impervious areas	1-37	Develop priority list for BMP's - use of vegetative low areas for retention/infiltration.
1-27	Control increased runoff caused by changed surface conditions to minimize the danger of flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction	1-38	Encourage cluster development.
1-28	Use temporary vegetation and mulching to protect exposed and critical areas during development	1-39	Require connection to and/or extension of existing water & sewer if project is within 500 feet of existing infrastructure
1-29	Redistribute topsoil within the boundaries of the disturbed land for seeding and planting	1-40	Enact limits on driveway grades.
1-30	Stabilize disturbed soils as soon as possible	1-41	For redevelopment, employ regulations that provide for technologically advanced (on and off) site wastewater treatment systems to optimize efficiencies and address "challenging" sites
1-31	Minimize the use of cut and fill operations. Conform such operations to topography and soils to minimize erosion potential and adequately accommodate runoff	1-42	Implement Federal/State Stormwater (SPDES) Phase II requirements



2. Forestry and Agriculture

a. Forestry

2-01	Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc)	2-05	Preplan harvest areas, skid trails, and access so as to be on stable soils, avoiding steep gradients, multiple stream crossings, poor drainage areas, etc.
2-02	Consider harvesting practices	2-06	Limit grades of access roads.
2-03	Seasonal preference for logging operations	2-07	Require stabilization of roads/drives to forestry site.
2-04	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas	2-08	Employ natural topography and contour for design of road network
		2-09	Require stormwater controls for increased runoff from ground cover modification
		2-10	Consider site restoration

b. Agriculture

2-11	Use Agricultural Environmental Management (AEM)	2-12	Require farms seeking agricultural value assessment to participate in AEM
------	---	------	---



3. Waterways and Wetlands

a. Modified Waterways

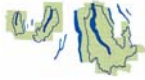
3-01	Develop an operation and maintenance program for existing modified streams that includes identification of opportunities and actions to restore habitat and the physical and chemical characteristics of these streams.	3-08	Protect streambanks through direct nonstructural means, such as new vegetation or protection of existing vegetation; direct structural means, such as revetments and bulkheads; indirect nonstructural means, such as regulating irrigation near streambanks or rerouting overbank drainage; or indirect structural means, such as deflecting channel flow away from streambanks with dikes, board fences and gabions
3-02	Improve stream quality by controlling in-stream sedimentation and selectively clearing debris		
3-03	Establish or reestablish riparian buffers		
3-04	Prevent animal wastes from entering waterbodies		
3-05	Attempt vegetative stabilization before undertaking structural measures	3-09	Use setbacks to minimize disturbance of land adjacent to streambanks and shorelines
3-06	Design and construct shore erosion control facilities, in accordance with an erosion and sedimentation control plan, in areas where marsh creation and soil bioengineering are ineffective or where existing protection methods are being flanked or are falling	3-10	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages
3-07	Schedule the periodic maintenance of sediment control measures, and inspect and repair them as needed in conformance with established schedule.		



(Waterways and Wetlands, continued)

b. Wetlands and Riparian Area Management and Restoration

- | | | | |
|------|---|------|---|
| 3-11 | Consider wetlands and riparian areas and their non-point source (nps) control potential on a watershed scale | 3-15 | Use appropriate pretreatment practices such as vegetated systems or detention or retention basins to prevent adverse impacts to wetland functions that affect nps pollution abatement from hydrologic changes, sedimentation, or contaminants |
| 3-12 | Identify existing functions of those wetland and riparian areas with significant nps control potential when implementing nps management practices. Do not alter wetlands or riparian areas to improve their water quality at the expense of their other functions | 3-16 | All projects should require wetlands certification. |
| 3-13 | Conduct permitting, licensing, certification and non-regulatory nps pollution activities in a manner that protects wetland functions | | |
| 3-14 | Special zoning considerations to protect wetland areas | | |



4. Marinas

a. Existing

4-01	Clean maintenance areas regularly preferably by vacuuming to remove trash, sandings, paint chips, etc.	4-12	Prohibit in-water hull scraping or any underwater process to remove paint from boat hulls
4-02	Prevent residue from being carried into surface waters by performing abrasive blasting within plastic tarp enclosures on windless days or within spray booths	4-13	Wash the boat hull above the waterline by hand, using only necessary amounts of detergents and cleaning compounds that are phosphate-free and biodegradable
4-03	Provide proper disposal/recycling facilities to marina patrons, preferably covered receptacles	4-14	Prohibit the use of detergents and cleaning compounds containing ammonia, sodium hypochloride, chlorinated solvents, petroleum distillates, alcohol, or lye
4-04	Establish fish cleaning areas, and implement rules governing the conduct of fish cleaning operations		
4-05	Educate boaters on the importance of proper fish cleaning practices		
4-06	Implement fish composting where appropriate	4-15	Educate individuals about the importance of trash reduction and recycling through: interpretive and instructional signs placed at marinas and boat-launching sites, pamphlets or flyers, newsletters, inserts in billings, meetings and presentations, workshops, and certification programs
4-07	Store materials in areas impervious to the type of material stored. Build curbs, berms, or other barriers around the areas to contain spills		
4-08	Use separate, clearly labeled containers for the disposal of oil, gasoline, antifreeze, diesel, kerosene, and mineral spirits	4-16	Inspect pump-out facilities regularly, and repair them, if practical, under a maintenance contract with a competent contractor
4-09	Target outreach programs about proper disposal at marina patrons through the use of signs, mailings, and other means	4-17	Add language to slip lease agreements mandating the use of pump-out facilities and specifying penalties for failure to comply
4-10	Promote the use in bilges of oil-absorbing materials, and replace them as necessary, preferably recycling, or disposing of them in accordance with petroleum disposal regulation	4-18	Place dye tablets in holding tanks to identify and discourage illegal disposal
4-11	Use a container under the air vent while refueling inboard tanks if the tank vents are not equipped with a fuel/air separator	4-19	Prohibit motorized vessels from areas (define areas) that contain important shallow-water habitats
		4-20	Establish and enforce no-wake zones to decrease turbidity and reduce erosion potential from boat wakes



(Marinas, continued)

b. New

4-21	Design and site marinas to maximize exchange of marina basin water. Limit basins and channels with square corners that tend to trap flotsam, and place dock structures in a manner that promotes circulation	4-30	Use properly designed and constructed engineering practices that minimize shoreline disturbance in areas where soil bioengineering and plants are ineffective
4-22	Perform a preconstruction assessment, which includes a water quality monitoring and modeling methodology, to predict post-construction water quality conditions	4-31	Use appropriate shore erosion control methods, such as returns or return walls, in areas where existing protection methods are being flanked or are falling
4-23	Monitor water quality during construction to protect ambient water quality to the maximum practicable extent	4-32	Plan and design all steambank, shoreline, and navigation structures so that they do not transfer erosion energy to or otherwise cause visible loss of surrounding streambanks or shorelines
4-24	Develop a marina siting policy to discourage development in areas containing important habitat designated by local, State, or federal agencies	4-33	Locate and design fuel stations so that spills can be contained in a limited area
4-25	Conduct surveys and employ rapid bioassessment techniques to assess historic habitat function (e.g. spawning, nursery, and migration pathways) and potential impacts to these and other biological functions and resources	4-34	Design and install underground fuel storage tanks according to State regulations, including the provision of detection systems and automatic fuel tank and pump leak shut-offs
4-26	Encourage the redevelopment or expansion of existing marina facilities that have demonstrated minimal environmental impacts instead of developing new marina facilities	4-35	Provide aboveground fuel tanks and fueling areas with a curbed or diked storage area to handle containment volumes meeting State (and local) codes and inspect regularly
4-27	Consider alternative sites with minimal potential environmental impacts when the use of previously disturbed sites is not feasible	4-36	Use preferred pumpout systems: fixed-point, portable, dedicated slipside, and pumpout boats
4-28	Minimize disturbance of indigenous vegetation in the riparian area	4-37	Design onsite wastewater treatment systems to specifically handle waste from vessels
4-29	Use soil bioengineering or plants, wherever conditions allow, to restore damaged habitat along shorelines and streambanks	4-38	Post pumpout facility location and regulations at the marina. Charge fees that encourage rather than discourage facility use. Consider offsetting the cost of maintaining pumpout facilities by fuel sales where these facilities are conveniently located in close proximity to one another



(Marinas, continued)

c. All

4-39	Restrict boat repair and maintenance activities to clearly marked designated areas to prevent debris from falling into the water and preventing invasive species	4-44	Have a trained operator present and prepared to respond to accidental spills
4-40	Secure all fueling facilities and storage areas with appropriate shut-off devices and security locks and inspect regularly	4-45	Maintain daily inventory records to identify abnormal loss or gain of liquid
4-41	Design fueling stations with spill containment equipment that is stored in a clearly marked location, accessible to work and storage areas. Post emergency phone numbers in a prominent location	4-46	Prohibit the cleaning of hoses, fittings, pumps, and other accessory equipment on piers, docks or adjacent upland to prevent runoff into the marina basin or other surface or groundwater
4-42	Design a spill contingency plan	4-47	Create and/or maintain a dedicated fund for maintenance in the case of government-owned facilities
4-43	Inspect and maintain all containment berms or devices in accordance with State regulations. Investigate immediately signs of leakage or spillage, and undertake cleanup in accordance with applicable best management practices	4-48	Restrict the operation of pumpout facilities to trained marina personnel only



5. Roads and Bridges

a. New Roads and Bridges

5-01	Conduct road and bridge maintenance (de-icing material usage and storage, pot-hole repair, bridge washing, scraping and painting, etc) according to best management practices	5-04	Implement a regular inspection and maintenance plan of existing structures
5-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc) - according to best management practices	5-05	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities
5-03	Include high percentage of indigenous plants in new landscaping on public-owned properties (excluding arboretums, horticultural gardens, and site requiring turf grasses)	5-06	Require percentage of roads to be tested with non-salt and non-sand de-icing.

b. Existing Roads and Bridges

5-07	Minimize the amount of land disturbed and the duration of disturbance	5-14	Redistribute topsoil within the boundaries of the disturbed land for seeding and planting
5-08	Preserve natural features and conform substantially with the natural boundaries and alignment of waterbodies	5-15	Stabilize disturbed soils as soon as possible
5-09	Retain and protect trees and other natural vegetation on and near disturbed sites	5-16	Minimize the use of cut and fill operations. Conform such operations to topography and soils to minimize erosion potential and adequately accommodate runoff
5-10	Retain additional runoff sites	5-17	Control erosion and sedimentation prior to, during and after site preparation and construction
5-11	Minimize the creation of impervious areas	5-18	Require long term stormwater management plan.
5-12	Treat increased runoff caused by changed surface conditions to minimize the danger of flooding, erosion and pollutants entering waterbodies prior to, during and after construction	5-19	Require long term sedimentation control & maintenance.
5-13	Use temporary vegetation and mulching to protect exposed and critical areas during development		



(Roads and Bridges, continued)

c. All

5-20	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces	5-24	Participate in Cornell Local Roads Program activities and training
5-21	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (Highway Design Manual, Environmental Procedures Manual, Maintenance Guidelines, etc) into local laws and operating procedures	5-25	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials
5-22	Ensure application of appropriate solid and hazardous waste generation and disposal practices including source controls and recycling	5-26	Target training and outreach programs about the proper handling of materials, leakage and spill prevention and spill response procedures at maintenance staff and workers
5-23	Ensure proper operation and maintenance of runoff management facilities		

6. Onsite Wastewater Treatment Systems

6-01	Conduct regular inspections of OWTS at a frequency adequate to determine failure and undertake required maintenance	6-05	Inspection of all OWTS at property transfer or within 1 year prior to transfer
6-02	Institute setback guidelines	6-06	Require all properties within 500' of municipal service to connect.
6-03	Promulgate plumbing codes that require practices that are compatible with OWTS	6-07	Set goals for effluent limits (nitrogen, phosphorous, BOD, etc)
6-04	Target outreach programs at homeowners, contractors and developers		