

Managing Forests in the Upper Susquehanna River Watershed— Headwaters to Chesapeake Bay

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New York State Department of Environmental Conservation

DEC and Private Forest Management

DEC's Cooperative Forest Management Program makes service foresters available to private landowners to help them clearly identify their forest-management objectives, develop a plan to achieve those objectives, and become good stewards of their forests. Upon request, a DEC service forester will accompany you on a tour of your woodland and outline forest management opportunities, which may include:

- Thinning or harvesting to improve the growth and quality of forest products, or to improve wildlife habitat
- Plantings to address wildlife habitat, timber production, windbreaks and soil stabilization
- Installation of best management practices, like waterbars and properly designed access trails, to address soil erosion and sedimentation concerns

DEC's service forester will develop a forest stewardship plan with recommendations based on good forest practices that reflect the goals and objectives for your forest, enabling you to realize multiple benefits from your land. DEC forest stewardship plans meet standards developed by the USDA Forest Service. Historically these plans have been a prerequisite for landowners to apply for federal cost-sharing or funding programs.

The forest stewardship services described here are available throughout New York State. For more information, contact the forester in the DEC region where your land is located. A list of DEC regional forestry offices within the watershed is included in this brochure.

The Susquehanna/Chesapeake Connection

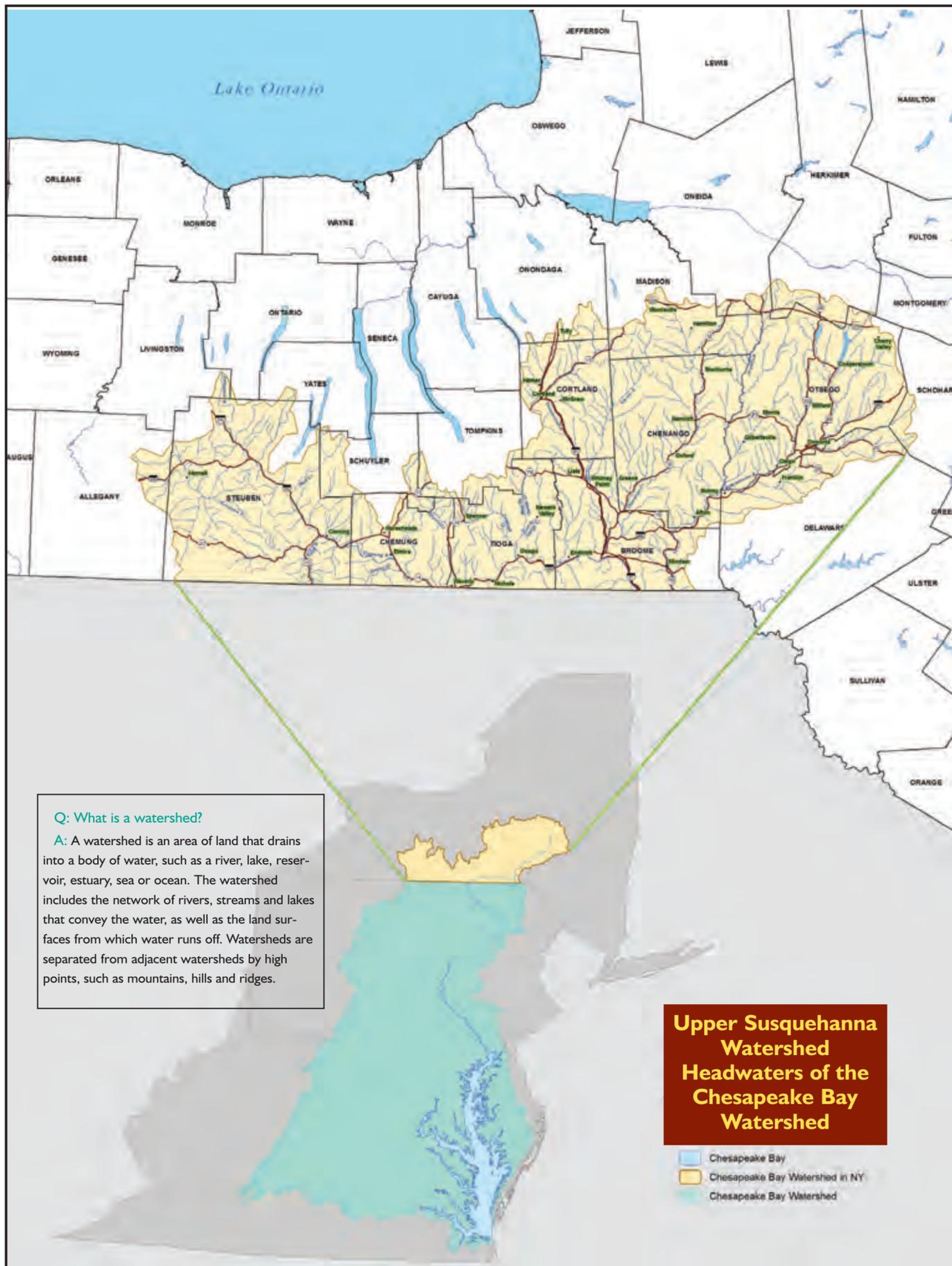
The Upper Susquehanna River watershed in New York covers 6,265 square miles in portions of 19 counties with a population of about 650,000 in the south-central part of the state. Large areas of the watershed—2.8 million acres, or about 71 percent—are covered by privately held forests.

The Upper Susquehanna is a major part of the Susquehanna watershed—second largest east of the Mississippi and largest on the Atlantic seaboard. The Susquehanna drains portions of New York, Pennsylvania and Maryland before emptying into Chesapeake Bay, where it provides half of the bay's fresh water. The Chesapeake Bay is the nation's largest estuary, providing habitat to more than 3,600 different species of plants and animals and producing hundreds of millions of pounds of seafood per year.

Because the Susquehanna and Chesapeake watersheds are connected, how forest landowners in the Upper Susquehanna manage their forests has an impact on the water quality of both.



The Susquehanna/Chesapeake Connection



The Susquehanna/Chesapeake Tributary Strategy

In recent years, water-quality monitoring data shows generally good water quality in the Upper Susquehanna watershed, with declining biological nutrient (nitrogen and phosphorus) and sediment levels. However, to help meet Chesapeake Bay water-quality restoration goals, a substantial amount of nutrient reduction from New York is still necessary. Managing private forests using best management practices (BMPs) will further improve nutrient and sediment levels in both watersheds.

Each state in the Chesapeake Bay watershed is committed to developing and implementing a tributary water-quality improvement strategy outlining how nutrient and sediment loads delivered to the bay can be reduced. To develop the New York State Tributary Strategy for Chesapeake Bay Restoration, the New York State Department of Environmental Conservation (DEC) has partnered with the Upper Susquehanna Coalition (USC) to help provide local input and technical support.

USC is a bi-state (New York and Pennsylvania) network of county natural resource professionals whose mission is to conserve the soil and water resources of the headwaters of the Susquehanna River and Chesapeake Bay watersheds. In New York, USC includes representatives from the 16 counties that make up a vast majority of the New York portion of the bay watershed.

Both the New York State strategy and the response to public comments may be viewed on DEC's website at www.dec.ny.gov/lands/33279.html, or by contacting the Division of Water at dowinfo@gw.dec.state.ny.us, or calling 518-402-8205.

For more information about Chesapeake Bay restoration and our effort in New York, see the websites of the Chesapeake Bay Program, www.chesapeakebay.net, and the Upper Susquehanna Coalition, www.u-s-c.org.



Privately held forests cover 71 percent of the Upper Susquehanna watershed.

Timber Harvesting Best Management Practices (BMP): Important to the Strategy

Protecting water quality and forest and soil resources are among the most important aspects of a successful and environmentally sustainable timber harvest. Studies have shown that skid trails, haul roads and landings have the potential to be sources of sedimentation, erosion and siltation of streams and other water bodies.

The key to timber harvesting that protects soil and water resources is proper planning and the use of BMPs, like waterbars or well-designed stream crossings. These are simple, often low-cost, practices that will pay big dividends in keeping our water clean, maintaining the productivity of the forest, improving public confidence in timber harvesters, and maintaining public support for forest management and timber harvesting, which are essential for sustainable forest management.

Landowners considering a timber harvest should contact a DEC forester to assist with establishing the objective of the harvest, and identifying areas of special concern such as streams, ponds, lakes, wetlands, snags and bird nesting sites. Tools like aerial photographs, soil survey maps, soil descriptions, and topographic maps, can help in evaluating a property and developing a plan for logging and other land management activities, which may be included in a Forest Stewardship Plan.

Planning not only entails how you will access the timber but also when the timber will be cut. Timing is one of the most important best management practices. Operating when the ground is dry, frozen or snow covered, or when water levels are low, is an excellent way to reduce or eliminate erosion and sedimentation. A forest landowner should also plan to take additional precautions or even suspend harvesting during muddy periods in the spring or fall.

Landings

Landings are areas where forest products are staged for pick up and where loading equipment is kept. They should be out of sight of public highways by curving the access road, or leaving a strip of vegetation between the landing and the highway. Muddy roads, piles of slash and debris, and trash spread about the landing give a poor impression of logging. Landowners considering a timber harvest should ensure that the sale contract adequately addresses the location, construction and maintenance of the landing.



Covering the skid trail with branches during harvest reduces erosion.

Skid Trails

Skid trails are access routes used by harvesting equipment to transport forest products to the landing area. Existing trails should be used if they provide the best long-term access. Relocating existing trails should be considered if both access and environmental impact can be improved. Skid trail grades should be kept to less than 15 percent slope if possible. If a steeper grade is unavoidable, the use of drainage structures and soil stabilization practices, like waterbars and culverts, can help to minimize runoff and erosion. If existing trails are to be relocated or additional trails constructed, the landowner should work with a professional forester to consider the topography within the harvest area and have the locations of these trails designated as part of the timber sale contract.

Most sediment enters streams from skid trails during severe storms, and the landowner should have plans to address trail maintenance during these events. Waterbars and other diversion methods are the best way to keep sediment laden water from entering streams at skid trail crossings. These practices not only prevent the degradation of nearby streams, but also keep the landowner's trail network in good condition. Having the harvest monitored by a professional consulting forester can help to ensure that these diversion devices are used as necessary.

Stream Crossings

Stream crossing structures are installed across intermittent or perennial streams to provide temporary access for logging equipment. When properly located and constructed, crossing structures can prevent damage to the bed and banks of streams, and can control the movement of sediment into the water. A forestry professional can assist you in planning the stream crossing structure best suited to the site.

A permit is required to construct a ford, or install a culvert or bridge across any protected stream. If you have a question about a stream classification associated with a potential timber sale on your property, contact the nearest DEC office and speak to a representative from the Environmental Permits Office.

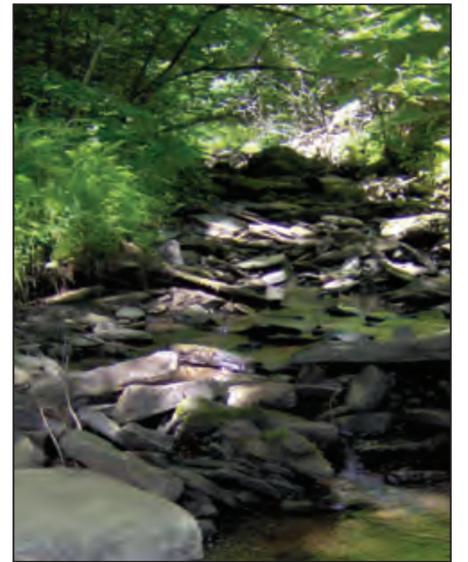
At the conclusion of a harvesting operation, the landowner should ensure techniques are used to maintain the integrity of skid trails and forest landing areas. Smoothing skid trails and landings to fill in ruts, and installing waterbars or other diversion devices as needed, will minimize erosion and sedimentation until vegetation becomes established and can hold soil in place. Seeding the landing area can shorten the time required to stabilize it.



Harvesting in winter when the ground is frozen reduces site damage and erosion.



A well constructed and maintained landing like this exemplifies the responsible way to harvest timber.



REGIONAL DEC OFFICES IN THE UPPER SUSQUEHANNA WATERSHED

Contact the DEC regional office in the county where your land is located for forestry information and assistance.

Otsego/Delaware/Schoharie:
Region 4 Stamford Office
65561 State Hwy. 10, Suite 1
Stamford, NY 12167-9503
(607) 652-7365

Chenango/Madison:
Region 7 Sherburne Office
2715 State Hwy. 80
Sherburne, NY 13460-0594
(607) 674-4036

Steuben/Chemung/Schuyler/
Yates/Livingston/Ontario:
Region 8 Bath Office
7291 Coon Road
Bath, NY 14810-9728
(607) 776-2165

Herkimer/Oneida:
Region 6 Herkimer Office
225 North Main Street
Herkimer, NY 13350
(315) 866-6330

Onondaga/Cortland/Tompkins/Tioga:
Region 7 Cortland Office
1285 Fisher Road
Cortland, NY 13045-5170
(607) 753-3095

Allegheny:
Region 9 Belmont Office
5425 County Route 48
Belmont, NY 14813
(585) 268-5392

Broome:
Region 7 Kirkwood Office
1679 NYS Route 11
Kirkwood, NY 13795-9772
(607) 775-2545

Visit DEC on the web at:
www.dec.ny.gov



Protecting water quality and forest and soil resources are among the most important aspects of a successful and environmentally sustainable timber harvest.



Following their management plan, these landowners replanted their forest with Norway Spruce.