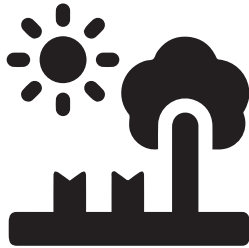
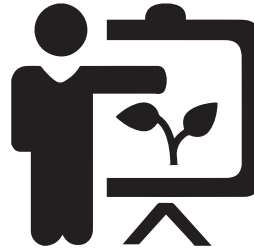




**STEWARDSHIP  
PLANNING**



**IMPLEMENTATION**



**FORESTRY  
EDUCATION &  
TRAINING**



**RESEARCH &  
DEMONSTRATION**



**WAC CONSERVATION  
EASEMENTS**

# 2026 FORESTRY PROGRAM HANDBOOK



## July 2026

The Watershed Agricultural Council's Forestry Program continues to be committed to water quality protection through the principles of sound forest stewardship, strong wood-based economies, and working landscapes. As the Program matures, our efforts to reach more landowners, students, forestry professionals, and business owners have never been greater. Over the years, we've learned how important our partners are in helping us realize our mission and goals. This handbook was created to help users understand the specific policies that govern the WAC Forestry Program. Whether you are a Watershed Qualified Forester writing management plans for private landowners or a teacher seeking Watershed Forestry Field Trip funds for your class to visit the watershed, this booklet should help you find the answers you need.

The contents of this booklet have evolved from The Watershed Forest Ad Hoc Task Force's "Policy Recommendations for the Watersheds of New York City's Water Supply" published in July 1996. The Policy Recommendations, also known as "The Green Book," enabled the Watershed Forestry Program to grow thanks largely to its strong partnership with the New York City Department of Environmental Protection and the US Forest Service.

With headquarters in Delaware and Putnam Counties, the WAC Forestry Program team is here to help you. Our contact information can be found on the last page of the handbook. So call us or send an e-mail with any questions. We look forward to hearing from you.

The WAC Forestry Program  
[www.nycwatershed.org](http://www.nycwatershed.org)



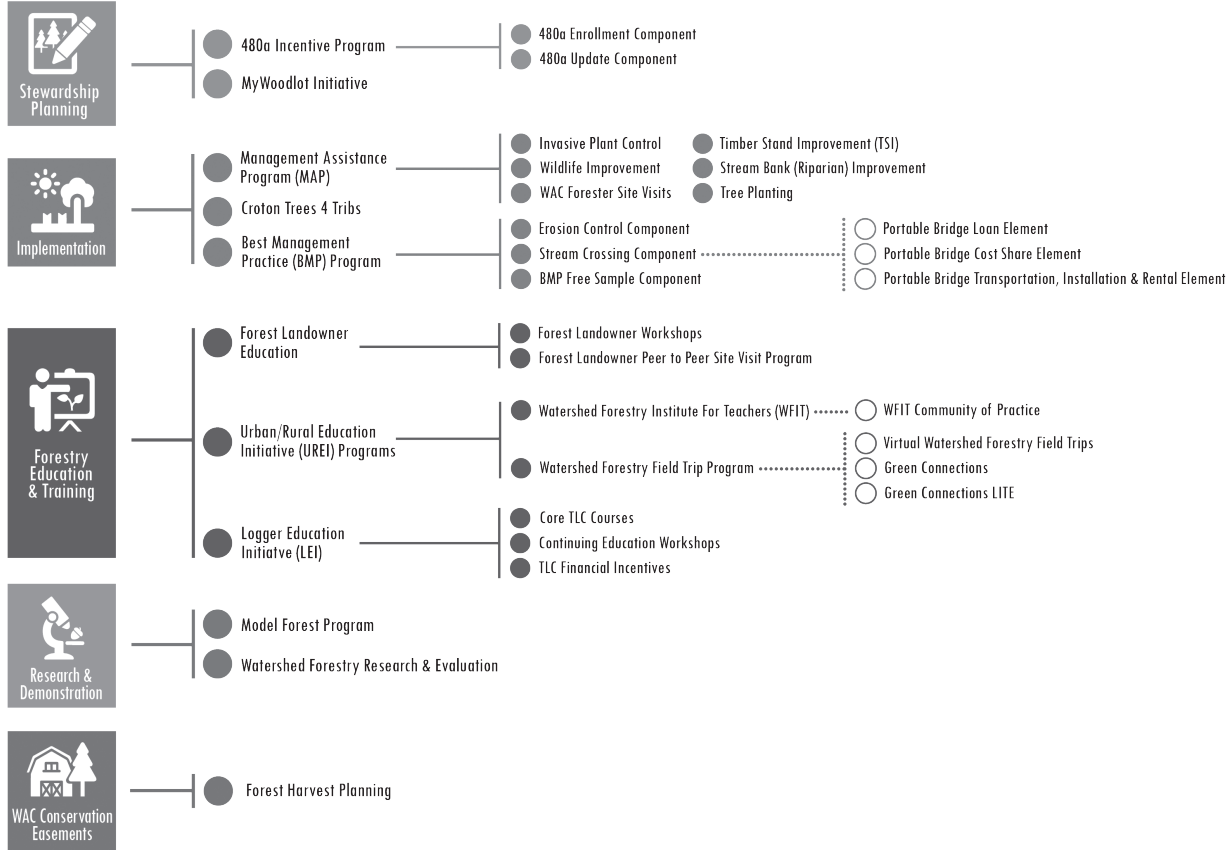
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# Watershed Agricultural Council's Forestry Program

Watershed Agricultural Council  
Forestry Program  
mywatershed.org



## **WAC Forestry Program Committee Working Group Charges**

Forestry Program Working Groups provide technical oversight and guidance for specific efforts within the Forestry Program. These groups are comprised of individuals possessing technical knowledge who are appointed to the working groups by the Forestry Program Committee Chair. The Forestry Program Working Groups are tasked with reviewing technical details as they pertain to the individual efforts (Logger Training, Watershed Forestry Ed, and Model Forest) and providing recommendations to the Forestry Program Committee. In certain circumstances the Forestry Program Committee has delegated approval authority to the working groups as outlined in the Forestry Program Handbook.

### **Watershed Forestry Education Working Group**

This working group will provide advice and support for the implementation of all Watershed Forestry Education programs by annually reviewing program guidelines, periodically evaluating program strengths and weaknesses, and reviewing and discussing special situations not covered by program guidelines. The working group will perform the following specific program duties:

1. Watershed Forestry Institute for Teachers (WFIT): Assist with the review and approval of applications on an as-needed basis.
2. Watershed Forestry Field Trip program: Review and approve applications.
3. Green Connections program: Assist with the review and approval of applications on an as-needed basis.

Working group members are to include: Conservation Education Coordinator for the NE Region (US Forest Service), Education Coordinator (CWC), EOH Forestry Coordinator (WAC), Director of Education (NYC DEP), Regional Engineer, Water Operations (NYC DEP).

### **Model Forest Working Group**

This working group will develop strategies to promote and manage the four existing Model Forests: Clearpool, Frost Valley, Lennox and Siuslaw. The Model Forests are intended to be living classrooms that highlight various BMPs, silvicultural prescriptions, invasive species issues, and forest stewardship practices as well as other topics that are relevant to the protection of water quality and the sustainable management of watershed forests. The strategies developed by this working group will be recommended to the WAC Forestry Program Committee for review and approval. Members: Siuslaw Model Forest Representative, Clearpool Model Forest Representative, Lennox Model Forest Representative, Frost Valley Model Forest Representative, René Germain (SUNY ESF), Research & Evaluation Forester (WAC), NYC DEP Representative, SUNY ESF Model Forest Graduate Student.

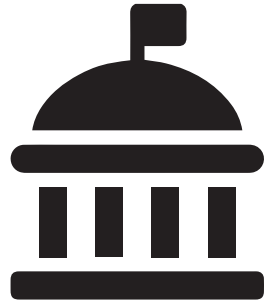
## Useful Definitions

**Principle:** Generally developed by the board and staff during the strategic planning process.

**Policy:** Developed by the Council to provide an overarching framework within which decisions are to be made in. Example: WAC will use a competitive process in purchasing goods and services with preference given to women and minority owned businesses and businesses headquartered within the watershed.

**Guideline:** Developed by Committees to provide guidance to staff. Example: Total maximum funding per application will not exceed \$5,463.64 (\$6,895.85 TLC) without prior approval of the WAC Forestry Committee.

**Standard Operating Procedure:** Developed by staff for internal use. Example: The Finance Director and Contracts and Grants Administrator will open the sealed bids at the advertised time, develop a list of responsible bids ranked from the lowest to highest including any preferences and forward it to the Executive Director with a recommendation of who to award the bid to.



# Administration

# Project Administration

**Description:** The Administration section of the Forestry Program Handbook is intended to provide Forestry Program staff with the specific guidance they need to administer the various Forestry programs, budgets, grants and contracts fairly, consistently and effectively over time.

## Procedures:

1. Staff will strictly adhere to project deadlines, canceling projects and their encumbrances promptly in order to return this funding to the pool of available funding for re-approval. Projects where work has stopped for an indefinite period of time will be canceled on the deadline and are eligible to reapply for funding prior to the resumption of work.
2. Staff will limit extensions to projects that demonstrate a significant likelihood of completion. Significant likelihood of completion means projects are currently being actively worked and a reasonable estimate of completion time can be provided by the participant. Extensions will not exceed a total of 6 months from the original project deadlines.



# Stewardship Planning

## 480a INCENTIVE PROGRAM - ENROLLMENT

**Description:** The New York State Forest Tax Law (480a) represents a long term commitment by private forest landowners to actively steward their forest resources. To encourage this long term commitment, the WAC Forestry Program provides a 480a Enrollment Incentive payment to help private forest landowners offset the cost of enrolling in 480a.

**Goal:** To encourage the enrollment of new land in the 480a Tax Law.

### Eligibility:

1. Any private landowner owning at least (50) acres of forestland within the NYC Watershed.
2. The applicant property **is not** currently enrolled in the 480a Tax Law.
3. The applicant property must not be under contract for purchase in fee by a government agency.
4. The applicant property **will be** enrolled in the 480a Tax Law prior to receiving WFMP Program funds.

### Procedures & Participation Requirements:

1. If the applicant property has a Watershed Forest Management Plan that is 5 or more years old, they are eligible to apply for the 480a Enrollment Incentive.
2. Landowners seeking to add un-enrolled acreage to an existing 480a plan are permitted to apply for WFMP Program funds. The addition of less than 50 acres will be funded at the 480a Update Incentive rates. The addition of 50 acres or more will be funded at the 480a Enrollment Incentive rates.
3. Eligible landowners will submit a completed 480a Enrollment Incentive application that includes the tax parcel identification number(s), owner contact information and property address. Power of Attorney is accepted.
4. Prior to approval, WAC Forestry staff will verify that applicant properties lie within the NYC Watershed.
5. Applications will be reviewed and approved on a monthly basis.
6. Parcels partially within the watershed will be funded based on the forested acreage within the Watershed. This will be determined by WAC Forestry staff using GIS.

7. Upon approval landowners will be notified within 30 days of their funding status in accordance with the rates identified below.
8. Landowners must submit a copy of the 480a enrollment certificate, 480a plan and work schedule to WAC within twelve months from the date of application approval or their approved funding will be re-allocated.
9. Priority will be given to those parcels located in proximity to reservoirs or in an identified region of interest if necessary.
10. At the landowner's request, multiple non-adjacent parcels can be treated as a single WAC plan.
11. WAC will disperse funding to the landowner based on the acreages identified on the 480a enrollment certificate in accordance with funding rates.
  - A. Actual payments are permitted to exceed the approved funding amounts only when the 480a certificate identifies the enrolled acreage that exceeds the approved acreage.
  - B. Deviations greater than \$500.00 will be reported to the WAC Forestry Program Committee during scheduled meetings.
12. Supplemental Management Plan Information: 480a forest management plans do not contain all the information deemed necessary by the WAC Forestry Program for landowners to make informed decisions regarding their forest land. To address this deficiency, the WAC Forestry Program will provide each landowner who receives a 480a Enrollment Incentive with the following Watershed Woodland Owners supplements.
  - A. Required Supplements:
    - i. One 11x17 aerial map and one 11x17 USGS topo map that identify the property boundaries.
    - ii. Riparian Supplement: Riparian buffers will be identified and management recommendations will be provided for all DEC classified streams and/or streams that appear on a USGS topographic map.
      - a. Riparian Areas will be identified on a USGS contour map.
      - b. A 100 foot Riparian Buffer will be delineated on the map.
    - iii. Best Management Practice Supplement.
      - a. WAC Forestry Program staff will solicit landowners prior to scheduled stewardship activities to encourage their participation in the BMP Program.

- iv. Landowner Resources Supplement: Include a listing of all known cost-share practices and programs available to assist landowners with the stewardship of their forest.
- xiii. The WAC Forestry Program Committee may enact a 3% bi-annual cost-of-living increase for Watershed Forest Management Planning Program cost-share rates.

## 480a INCENTIVE PROGRAM - UPDATE

**Description:** The New York State Forest Tax Law (480a) represents a long term commitment by private forest landowners to actively steward their forest resources. To encourage this long term commitment, the WAC Forestry Program provides the 480a Update Incentive to help private forest landowners offset the cost of periodically updating their plans as required by the NYS DEC.

**Goal:** To support landowners with maintaining their 480a enrollment.

### Eligibility:

1. Any private landowner owning at least (50) acres of forestland within the NYC Watershed.
2. The applicant property is currently enrolled in the 480a Tax Law.
3. The applicant property must not be under contract for purchase in fee by a government agency.
4. Priority will be given to those parcels located in proximity to reservoirs or in an identified region of interest if necessary.

### Procedures and Participation Requirements:

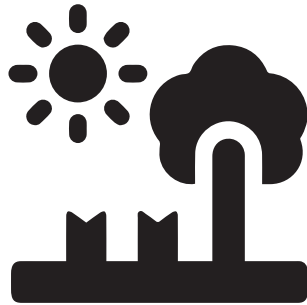
1. If the applicant property has a Watershed Forest Management Plan that is less than 5 years old and the landowner desires to enroll in 480a they are eligible to apply for the 480a Update Incentive.
2. Eligible landowners will submit a completed 480a Enrollment Incentive application that includes the tax parcel identification number(s), owner contact information and property address. Power of Attorney is accepted.
3. Prior to approval, WAC Forestry Program Foresters will verify that applicant properties lie within the NYC Watershed.

4. Parcels partially within the watershed will be funded based on the forested acreage within the NYC Watershed. This will be determined by WAC Forestry staff using GIS.
5. 480a Update Incentive applications will not be approved and encumbered prior to their approval by DEC. Instead, 480a Update Incentive applications will be approved and paid upon the submission of a completed application and 480a Certificate of Approval. 480a Update Incentive projects will be approved and paid on a monthly basis until the monthly budget allocation is expended. In the event of limited monthly funding, applications will be randomly selected for payment. Unfunded applications will be held for the remainder of the calendar year for potential funding in the event of a monthly funding surplus.
6. WAC will disperse funding to the landowner based on the acreages identified on the 480a enrollment certificate and in accordance with funding rates.
  - A. Actual payments are permitted to exceed the approved funding amounts only when the 480a certificate identifies the enrolled acreage that exceeds the approved acreage.
  - B. Deviations greater than \$500.00 will be reported to the WAC Forestry Program Committee during scheduled meetings.
  - C. Best Management Practice Supplement.
    - i. WAC Forestry Program staff will solicit landowners prior to scheduled stewardship activities to encourage their participation in the BMP Program.

#### 480a INCENTIVE PROGRAMS FUNDING RATES

| 480a Incentive Programs |                                      |
|-------------------------|--------------------------------------|
| Program                 | Rate                                 |
| Enrollment              | \$537.32 base rate + \$6.57 per acre |
| Update                  | \$358.21 base rate + \$0.62 per acre |





# Implementation

## MANAGEMENT ASSISTANCE PROGRAM (MAP)

**Description:** The Management Assistance Program (MAP) is a cost-share incentive program designed to increase implementation of forest stewardship activities on private land in the NYC Watershed. The Management Assistance Program is composed of the following components: Timber Stand Improvement, Wildlife Improvement, Riparian Improvement, Tree Planting, and Invasive Plant Control. The following paragraphs will describe in detail the various planned and actual accomplishments for each component of this program.

**Eligibility:** The forest land must be located within the NYC Watershed and a landowner must have a MyWoodlot profile for themselves, or a Forest Management Plan for their property or have their property enrolled in the 480a Forest Tax Law in order to be eligible for MAP. Staff can exempt a landowner from the MyWoodlot profile requirement if the landowner does not have internet access or if they feel they are not a proficient internet user. Interested landowners (or their foresters) must complete an application which describes the work to be performed and the stewardship practices to be implemented. Only those practices which are approved by WAC (see below) are eligible for funding.

### Procedures and Participation Requirements:

1. Participants may receive a maximum MAP funding amount per grant round and per calendar year towards the payment of certain stewardship practices based on a WAC-approved schedule of cost-sharing rates. Requests exceeding the funding cap require Committee approval. Matching funds are not required by the landowner. However, if the actual funding award is less than the total cost of implementing the practices, the landowner is responsible for paying the difference. WAC funding will be considered a one-time grant award.
2. MAP applications will be reviewed and approved twice each month. Applications will be selected from a competitive pool of eligible applicants using the selection criteria listed below. Unfunded applications that display merit will be held and considered during the next grant round. Landowners will receive notification of the reserved status of their application. All applicants will be promptly notified of the funding status (denied or approved) and all grant recipients will be given six (6) months to complete their approved project.
3. Prior to final payment participants are required to share their stewardship experiences relating to their completed project through a WAC approved method. This will allow WAC to capitalize on the power of peer interactions to diffuse stewardship knowledge to non-participating landowners. Landowners will give WAC permission to share their pictures and experiences with the general public. WAC staff will accommodate landowner requests for anonymity when sharing

their experiences. Methods for sharing stewardship experiences: Stewardship Story Questionnaire, Digital before and after pictures, Facebook posts relating to the project (on a landowners personal FB page), MyWoodlot forum posts, MyWoodlot Blog submission.

4. Upon receipt of a Request for Inspection, WAC staff will conduct one site inspection to ensure the work completed conforms to the plan recommendation and process all payments according to the person completing the work (landowner, forester or logger). Although payments may be divided among all three persons depending on the situation, only tree designation performed by a Watershed Qualified Forester is eligible to receive marking rates (although landowners can receive reimbursement for designation performed by a Watershed Qualified Forester).
5. WAC Forestry Program staff can employ an alternative inspection technique when the total paid amount for a completed MAP project is equal to or less than \$500. Alternative inspection techniques include before and after pictures provided by the landowner or a completed stewardship story.
6. All effort will be made to engage Watershed Qualified Foresters in the development and implementation of MAP applications. In the event that a landowner cannot secure the services of a Watershed Qualified Forester to help them complete and implement the application, WFP staff are authorized to offer such assistance to the landowner. WAC Forestry Program staff will notify the participating Watershed Qualified Foresters when aid is being offered to their client. All approved work must be completed according to MAP standards and specifications.
7. MAP practices being applied for must be addressed in the applicant Watershed Forest Management Plan prior to the submission of the application.
8. Application selection criteria:
  - a) New participant/ new practice - 10 pts
  - b) Repeat participant/ new practice - 5 pts
  - c) Repeat participant/ repeat practice - 2 pts

#### Scoring Adjustments

- a) Applicants property is 50 acres or greater: +5 pts
- b) The proposed project will address special or unique watershed protection needs: +14 pts
- c) Did not share their previous MAP experience with other landowners (repeat participants only): -5 pts

**Managenment Assistant Program (MAP) Practices include:**

**TREE PLANTING - Page 21**

**TIMBER STAND IMPROVEMENT (TSI) - Page 23**

**WILDLIFE IMPROVEMENT - Page 24**

**INVASIVE PLANT CONTROL - Page 27**

**INVASIVE TREE CONTROL - Page 28**

**WAC FORESTER SITE VISITS - Page 28**

**MAP FUNDING RATES - Page 29**

## TREE PLANTING

**Goal:** To encourage the regeneration of forest cover through planting, site preparation, tree shelters and fencing for the purpose of timber production, carbon sequestration and water quality improvement. Planting is limited to non-invasive native or naturalized species and cannot be used for orchard, ornamental, nursery or Christmas tree purposes.

### **Procedures and Participation Requirements:**

1. The applicant is responsible for finding someone (including themselves) to do the work, including site preparation, planting, spacing, and implementation of protective measures.
2. Twice each year (spring and fall) WAC will purchase and distribute to approved applicants the following planting materials identified in the approved MAP application: planting stock (trees and shrubs), tree tubes, bark protectors, weed mats, tree stakes and zip ties. The purchase of all planting materials will be done in accordance with WAC procurement SOPs.
3. WAC staff may conduct a site visit to help the participant develop the project details for the application.
4. The combined cost of all planting materials (trees, shrubs, tubes, stakes, zip ties and fencing) cannot exceed the maximum MAP funding identified in MAP Procedures and Participation Requirements #1.
5. Approval priority will be given to Tree Planting projects that fall within 100ft of a stream.
6. The application should address site preparation (how holes will be dug and brush hogging if needed), tree or shrub species to be planted, the number of tree or shrubs to be planted, the spacing of the trees or shrubs, and the number of tree tubes, stakes and/or fencing needed to protect the trees or shrubs from animal browsing.
7. All trees and shrubs must be protected from animal browse through the use of tubes or fencing.
8. The spacing for tree planting is 10ft by 10ft. The spacing for shrub planting is 6ft by 6 ft.
9. In order to be eligible for approval the participant is required to plant at least five trees.
10. In order to be eligible for approval at least 50% of the proposed planting must be trees.
11. Participants are required to have the holes dug before the planting materials will be delivered by WAC.
12. All fencing determined to be necessary to restrict damage by wildlife will be of suitable design to restrict access with a minimum height of 7 feet. Tree shelters and fencing cannot be used together (both at once) to protect an individual tree/ bush. Cost sharing is not authorized for fencing to restrict domestic livestock from the practice site.

13. Fencing projects relying on natural regeneration (no tree planting) will only be funded when there is sufficient light for the establishment of a variety of tree species.
14. Projects that propose planting fruit trees are not eligible for funding through MAP.

## TIMBER STAND IMPROVEMENT (TSI)

**Goal:** To enhance the growth and quality of timber. Tree designation must be conducted by a Watershed Qualified Forester, or an individual who has completed the three core Trained Logger Certification (TLC) courses. Thinning, release and removal can be conducted by any individual, preference will be given to applicants who use a New York State Trained Certified Logger (TLC).

### Procedures and Participation Requirements:

1. Cost sharing is not authorized unless the stand is actually improved by the cull tree removal or thinning. Cost share will be authorized for the “weeding” of the smaller diameter age classes in accordance with an appropriate marking guide in uneven-aged stands.
2. Stand improvement of orchard, ornamental, or Christmas tree purposes is not authorized.
3. Tree designation must be completed by a Watershed Qualified Forester **or an individual who has completed the three core Trained Logger Certification (TLC) courses (Game of Logging Level 1, Forest Ecology and Silviculture and First Aid/CPR).**
4. Refer to NRCS Conservation Practice Standard “Forest Stand Improvement” code 666 and “Crop Tree Management in Eastern Hardwoods” NA-TP-19-93 for specific information regarding implementation standards.
5. Prior to the disbursement of funding, trees designated for removal must be cut and felled to ensure that open canopy space is created. In the case of trees that are girdled or treated by hypo-hatchet, forestry staff must determine if the tree is dead or in the process of dying so that they no longer impact residual crowns.
6. Foresters doing herbicide or girdling TSI work must either flag the boundaries of the treatment area or mark the treated trees to facilitate project inspection and payment.
  - A. Upon completion staff will issue payment for herbicide TSI based on the presence of treatment frills.
  - B. Annually, staff will revisit a sample of old herbicide TSI projects to evaluate treated tree mortality.
7. Foresters doing girdling TSI must use a double girdle with the cuts spaced at least 6 inches apart.
  - A. Upon completion staff will issue payment for girdling TSI based on the presence of a double girdle.
  - B. Annually, staff will revisit a sample of old girdling TSI projects to evaluate treated tree mortality.

## **WILDLIFE IMPROVEMENT**

**Goal:** To create, protect or maintain wildlife habitat through the implementation of approved practices.

### **Procedures and Participation Requirements:**

1. Wild crop tree/fruit tree release & pruning: There is a maximum of ten trees per acre that can be released. For wild fruit trees, each tree will be released on four sides and pruned to stimulate fruit production. For mast-producing crop trees, crown-thinning must occur but there is no requirement for pruning.
2. Wildlife seeding: Openings must be at least 1/4 acre in size and no greater than 5 acres. Nutrients and lime will be applied, based upon the recommendations of a Cornell soil test, to insure satisfactory establishment. Receipts detailing the cost of seed and lime must be submitted prior to the dispersal of funding.
3. Seep Protection & Enhancement: The WAC Forestry Program will work with private forest landowners to create no-equipment buffers and targeted wildlife management recommendations for spring seeps within the New York City Watershed. The purpose of developing buffers and management recommendations for spring seeps is to protect and enhance habitat for the following Species of Greatest Conservation Need: Louisiana waterthrush, Red-shouldered hawk, Kentucky warbler, long-tailed salamander, Northern red salamander, spring salamander, willow flycatcher. Because of the increased availability of water, abundant and diverse foliage for nesting and cover, and rich invertebrate food supplies, seeps attract a higher density of wildlife than drier upland sites. The minimum seep buffer distance will be equal to the height of the mature canopy trees adjacent to the spring seep. Each seep buffer will be identified with marking paint, existing forest roads within the buffer will be closed, and staff will provide recommendations for locating future trails that will maintain the integrity of the seep buffer. Specific management activities that enhance wildlife habitat opportunities within the seep buffer will be recommended.
4. Snag & Cavity Tree Development: The WAC Forestry Program will work with private forest landowners to provide quality snags, cavity trees, and downed logs for the purpose of creating or improving habitat for the following Species of Greatest Conservation Need: Bald eagle, Cooper's hawk, sharp-shinned hawk, red-shouldered hawk, Northern goshawk, olive-sided flycatcher, prothonotary warbler. This will be accomplished by designating and reserving 2 to 4 (up to 8 where available) snags or cavity trees per acre. Existing snags will be identified and protected. New snags will be recruited by girdling large diameter poorly-formed trees that represent Unacceptable Growing Stock. They should be 20"+ in DBH to provide large and small cavity sites for potential users. Trees with open limbs that provide favorable perching, foraging and nesting sites for raptors and fly-catching songbirds will also be favored.

5. Early Successional Habitat Management: The goal of the Early Successional Habitat Management MAP element is to create and/or maintain the three stages that comprise early successional habitat: grassland, shrubland and sapling forests. Early successional habitats are becoming increasingly rare within New York State as mature forest becomes the dominant land cover type. The suite of wildlife species that use these areas, most notably songbirds, can be negatively impacted by the loss of this habitat. The New York State Comprehensive Wildlife Conservation Strategy was developed in 2006 to identify wildlife species that are at risk as a result of habitat loss and population decline. It promotes the creation and conservation of this habitat on public and private land. This strategy places a high priority on the creation of early successional habitats within the Catskill/Delaware and Croton watershed regions. The creation of this habitat will support populations of the wildlife Species of Greatest Conservation Need (SGCN) identified in the NYS wildlife strategy. The Eastern Bluebird, Roughed Grouse and American Woodcock are a few of the species that require early successional habitat to thrive and reproduce. WAC Forestry Program staff will seek to use the Management Assistance Program to motivate private landowners to create and/or maintain unique grassland, shrubland and sapling habitats in order to benefit wildlife species identified in the NYS Comprehensive Wildlife Conservation Strategy.
  - A. Grassland Habitat: Areas that are dominated by herbaceous vegetation such as milkweed, goldenrod and asters. The grassland habitat is the first stage in the early successional process that will over time convert abandoned agricultural lands into mature forests. The critical elements this habitat provides to wildlife are diverse insect populations, an abundance of forage, and dense cover. The grassland habitat will exist for approximately 20 years until shrubs and saplings begin to dominate the site by shading out the herbaceous vegetation. The maintenance of this early successional habitat prevents the establishment of shrub and saplings through periodic mowing. Target species for this activity include: Eastern bluebird, American goldfinch, and Bobolink.
    - i. Mowing will only be conducted from August 1<sup>st</sup> through April 30<sup>th</sup> to ensure successful brood rearing and re-nesting of ground nesting birds. Landowners will be required to complete the mowing prior to payment and refrain from mowing the area for a minimum of five years. Livestock will be excluded from the area and the land will not be converted to a non-compatible use, such as hay production, within this period. The landowner will agree to refund WAC in the event that these requirements are not adhered to.
  - B. Shrubland Habitat: Areas that are dominated by deciduous, coniferous, and ericaceous shrubs that occur within the 2 to 10 foot zone in forested and non-forested cover types. The shrubland habitat is the second stage in the early successional process that will over time convert abandoned agricultural lands into mature forests. The critical elements this habitat provides to wildlife are dense cover, vertical nesting, and critical foraging opportunities due

to abundant production of fruit and nut mast. The shrubland habitat will exist for approximately 20 years before saplings begin to dominate the site and shade out the shrubs. Maintenance of the shrubland habitat requires the removal of tree saplings that inhibit the growth of the shrubs. Target species for this activity include: American woodcock, whip-poor-will, Canada warbler, black-throated blue warbler, and brown thrasher.

- i. Livestock will be excluded from the area and the land will not be converted to a non-compatible use, such as hay production, within this period. The landowner will agree to refund WAC in the event that these requirements are not adhered to.
- C. Sapling Habitat: Areas that are dominated by a dense stand (2,000 to 4,000 stems per acre) of even-aged saplings with a continuous canopy and a lack of understory vegetation. Sapling habitat is the final stage in the early successional process that will over time convert abandoned agricultural lands into mature forests. The critical elements this habitat provides to wildlife are nesting opportunities, foraging structure and dense ground cover in areas where it is typically lacking. The sapling habitat will exist for approximately 10 years before the trees grow out of the sapling size class, raising the forest canopy above the height that is beneficial to targeted wildlife species. Target species for this activity include: chestnut-sided warbler, ruffed grouse, blue-winged warbler, and indigo bunting.
  - a. Openings will be a minimum of  $\frac{1}{4}$  acres and all trees within the area will be felled. Priority will be given to openings created in shade intolerant forest types (Aspen, Cherry, Birches). Livestock will be excluded from the area and the land will not be converted to a non-compatible use, such as hay production, within this period. The landowner will agree to refund WAC in the event that these requirements are not adhered to.

## **INVASIVE PLANT CONTROL**

**Goal:** To eradicate or control the spread of non-native and native invasive plants that interfere with the attainment of forest management goals.

### **Procedures and Participation Requirements:**

1. Cost share is authorized for the mechanical control and/or removal of invasive and interfering species of flora that restrict or prevent forest regeneration.
2. The species considered interfering or invasive for the purpose of this practice include: Autumn Olive, Russian Olive, Japanese Barberry, Multifloral Rose, Mile-a-Minute, non-native honeysuckle, Buckthorn, Oriental Bittersweet, Hay-scented fern, New York fern, Japanese Maple, English Ivy, Winged Enonymus, 5-Leaf Akebia and Swallowwort.
3. Control of invasive species for orchard, ornamental, nursery and Christmas tree purposes is not authorized.
4. Funding intensities will be verified prior to application approval by WAC staff through an assessment of invasive plant density using a series mil-acre sample plots.
5. Payment for approved projects will be made on a reimbursement basis to the landowner following an inspection of the completed practice to verify invasive plant removal and/or control.

## **INVASIVE TREE CONTROL**

**Goal:** To eradicate or control the spread of non-native and native invasive trees that interfere with the attainment of forest management goals.

### **Procedures and Participation Requirements:**

1. Cost share is authorized for the felling or girdling of invasive and interfering species of trees that restrict or prevent forest regeneration. Eligible trees must be at least 10 inches DBH. Trees with a smaller DBH will be funded under Invasive Plant Control guidelines.
2. The species considered interfering or invasive for the purpose of this practice include: Norway Maple, Tree of Heaven, and American Beech.
3. Control of invasive species for orchard, ornamental, nursery and Christmas tree purposes is not authorized.
4. Payment for approved projects will be made on a reimbursement basis to the landowner following an inspection of the completed practice to verify invasive plant removal and/or control.

## **WAC FORESTER SITE VISITS**

**Goal:** Evaluations of Forest Service's Forest Stewardship Program revealed "having a service forester walk the land with [a landowner is] the most highly valued assistance that [can] be provided" (Kilgore et al, 2007). The purpose of offering landowners a site visit by a WAC forester is to increase awareness of WAC's priority stewardship knowledge.

### **Procedures and Participation Requirements:**

1. Only landowners that meet MAP eligibility standards can receive a WAC Forester Site Visit.

## MAP FUNDING RATES

| Management Assistance Program (MAP) |                                                               |              |
|-------------------------------------|---------------------------------------------------------------|--------------|
|                                     | Practice                                                      | Regular Rate |
| Tree Planting                       | Tree Shelters (ea)                                            | \$5.22       |
|                                     | Fencing (ft)                                                  | \$2.61       |
| Timber Stand Improvement (TSI)      | Tree Designation (ac)                                         | \$26.11      |
|                                     | Cull Tree Removal (ac)                                        | \$58.72      |
|                                     | Light Thinning (ac)                                           | \$78.28      |
|                                     | Medium Thinning (ac)                                          | \$117.42     |
|                                     | Heavy Thinning (ac)                                           | \$143.53     |
| Wildlife Improvement                | Wildlife Crop Tree & Fruit tree (per tree)                    | \$26.11      |
|                                     | Wildlife seeding (ac)                                         | \$195.73     |
|                                     | Seep protection & enhancement (ac)                            | \$316.70     |
|                                     | Snag & cavity tree development (per tree)                     | \$31.67      |
|                                     | Grassland (ac)                                                | \$63.35      |
|                                     | Shrubland (ac) (>1")                                          | \$114.00     |
|                                     | Sapling (ac)                                                  | \$506.71     |
| Invasive Plant Control              | Light Invasive Plant Control: 0-30% pre-practice cover (ac)   | \$1,115.39   |
|                                     | Medium Invasive Plant Control: 31-60% pre-practice cover (ac) | \$2,230.77   |
|                                     | Heavy Invasive Plant Control: 61-100% pre-practice cover (ac) | \$3,261.94   |
| Invasive Tree Control               | Invasive Tree Control (per tree)                              | \$42.36      |
| Program Maximum                     | MAP Yearly Max                                                | \$6,523.87   |

## CROTON TREES FOR TRIBUTARIES (T4T)

**Goal:** To promote the protection and improvement of water quality and stream-side forest ecosystems in partnership with the watershed communities through the establishment, enhancement, and restoration of riparian forest buffers.

**History:** *Trees for Tributaries* or *Trees for Tribs* is a stream-side planting program developed in 2007 by the NYS Department of Environmental Conservation's Hudson River Estuary Program (HREP). After two seasons of pilot partnership between the WAC Forestry Program and the HREP, the *Croton Chapter of Trees for Tribs* was formed to specifically offer *Trees for Tribs* projects to eligible landowners in the Croton Watershed.

**Description:** Croton *Trees for Tribs* offers free trees and shrubs for the replanting of stream-side forests to eligible landowners in the Croton Watershed. As this is a voluntary community-based program, the participant will be strongly encouraged to identify an adequate number of volunteers to successfully implement the project. Participants will receive in-field education on riparian forestry including tree planting, species identification, forest health concepts, invasive species and deer, soils and climate, and buffer function and water quality. Projects are tailored to the goals and objectives of the landowner to the greatest extent possible. Project elements include but are not limited to an initial site visit, planting area delineation and invasive species identification, plant selection, permit acquisition, hole drilling with mechanical auger, project-related educational opportunities, press release development, and use of tree tubes for browse protection. Participation of the applicant in the project development process is encouraged. Long-term project success is strongly related to maintenance, monitoring, and frequent site visits.

**Eligibility:** All private, municipal, and county landowners in the Croton Watershed having non-forested, partially-forested, or declining-forested riparian areas. The WAC Forester can assist in this determination.

### Procedures and Participation Requirements:

1. Educational merits of the project including but not limited to property visitation, school involvement, public visibility, outreach potential, signage, access to forest landowners, unique aspects of riparian forestry, integration into existing educational programming, and volunteer group.

2. Project location within a priority reservoir basin (Kensico, Boyds Corner, West Branch, Cross River, Croton Falls).
3. Interested landowners should contact the WAC Forestry Program to set-up a site visit. Upon determination from the WAC Forester that the project is eligible and project details have been communicated, the landowner may apply for the program.
4. Applications are available from the WAC website at [nycwatershed.org](http://nycwatershed.org). Applications for the Spring season are due by February 1st, and applications for the Fall season are due by July 1st.
5. Applicants will be notified of their selection status. Non-winning applications will be provided to the Hudson River Estuary Program at the New York State DEC office in New Paltz to be included in their Trees for Tribes application pool.
6. Applicant will be in frequent contact with the WAC Forester for determination of several items including but not limited to planting date, selection and ordering, delivery or storage of materials, permitting (if necessary), educational components, or development of press materials.
7. Following project completion, the project leader or landowner is strongly encouraged to make periodic site visits.
8. The project site should not be altered without consultation from the WAC Forester.
9. The WAC Forester will make periodic site visits for maintenance and monitoring for several years.

# BEST MANAGEMENT PRACTICE (BMP) PROGRAM

**Description:** The purpose of the Best Management Practice Program is to provide financial and technical assistance to Loggers, Foresters and Landowners in order to support the implementation of Best Management Practices on privately owned forestland within the NYC Watershed.

**Eligibility:** Any timber harvester applying for BMP Program funding who is actively engaged in harvesting trees on a logging job in the NYC Watershed. WAC will issue payment to the business that completes the work and/or purchases the materials necessary to implement the BMPs approved by WAC. Separate payments can be issued for layout, stream crossings, materials and post-harvest stabilization. All loggers must have worker's compensation insurance to participate in the BMP Program. The WAC Forestry Program Committee supports logger participation in Trained Logger Certification (TLC) through prioritizing project approval and providing financial incentives to trained loggers. The WAC Forestry Program Committee also recognizes the vital role forest products businesses like saw mills and logging companies play in supporting the working forested landscape within the NYC Watershed. In recognition of the positive role forest products businesses play in supporting Trained Logger Certification these businesses are eligible to receive TLC Incentive payments. However, the WAC Forestry Program Committee wishes to ensure that TLC loggers are aware of situations when forest products businesses are receiving TLC Incentive payments. To this end, TLC Incentive payments will be issued to forest products businesses only after the eligible TLC logger who is working on the logging job signs the TLC Incentive Assignment of Payment form. Forest Products businesses that employ the TLC logger working on the logging job are exempt from this requirement. Loggers must be Trained Logger Certified at the time the project is inspected in order to receive adjusted TLC cost-share rates. All state recognized logger certification participants (CT, PA, etc.) are eligible to receive TLC incentive rates.

**The Best Management Practice (BMP) Program includes:**

**EROSION CONTROL COMPONENT - Page 33**

**STREAM CROSSING COMPONENT - Page 36**

- Portable Bridge Loan - page 38

- Portable Bridge Cost Share - page 39

- Portable Bridge Transportation, Installation & Rental - page 40

**BMP FREE SAMPLE COMPONENT - Page 41**

**BMP PROGRAM FUNDING RATES - Page 42**

## **EROSION CONTROL COMPONENT**

**Goal:** The Erosion Control Component of the BMP Program will ensure appropriate Best Management Practices are used within the harvest area during logging operations. The goal of the Erosion Control Component is to minimize soil movement and prevent sedimentation during active logging operations and after logging has ceased. At the completion of a project the participant will receive a completed evaluation of how well they met the BMP guidelines. This evaluation is meant to ensure consistency between WAC Forestry Program staff in the enforcement of NYS BMP standards, help participants understand the WAC Forestry Program's expectations for BMP implementation and to inform the planning and implementation of future Erosion Control projects.

### **Procedures and Participation Requirements:**

1. All Erosion Control applications for loggers and foresters (formerly Timber Harvest Roads) must be installed as part of an active timber harvest on properties meeting Watershed Forest Management Planning eligibility qualifications. Applicants will agree to follow the New York State Forestry BMP Field Guide regarding proper installation of all BMPs, which must remain on the property following installation.
2. Private forest landowners within the NYC Watershed are eligible to apply for Erosion Control funding to remediate existing erosion problems on their property (formerly Forest Roads). BMPs must remediate an existing erosion or sedimentation problem on the property. Applications will be ranked according to their impact on water quality, previous BMP Cost-Share funding, cost effectiveness and contractor availability. Landowners will agree to follow the New York State Forestry BMP Field Guide regarding proper installation of all BMPs, which must remain on the property following installation. Application must identify a contractor to carry out the work to be considered for funding.
3. Applicants must submit a completed application including a work outline and property location map. All proposed skid trails, truck roads and landings must be flagged prior to application review. All approved Erosion Control applications will be allowed 12 months from the approval date for completion. Individual deadlines may be extended only upon prior request and written approval from the WFP. BMP Cost-Share applications for loggers, foresters and private forest landowners will be approved on a rolling basis throughout the year. BMP Cost-Share applications for private forest landowners will be reviewed and approved in two grant rounds, each year held in January and July.
4. Projects exceeding maximum funding per application requires prior approval from the WAC Forestry Committee.
  - a. Layout funding will not be included in calculating the maximum funding per application.

5. An Erosion Control Component project can be implemented in conjunction with a Stream Crossing project.
6. Priority will be given to TLC applicants, applicants who have not previously received WFP cost-sharing, and timber harvests that are conducted on properties having a Watershed Forest Management Plan or specific water quality concerns.
7. Total maximum road layout & design funding per application cannot exceed the maximum funding amount without prior approval of the WAC Forestry Committee.
8. The total layout payment will be split evenly between the logger and forester in the event both wish to receive the layout cost-share funding.
9. A final inspection reviewing the proposed BMPs for adherence to State BMP Guidelines is required prior to the dispersal of funds. Receipts and invoices are required for gravel, hay, seed, geotextile fabric, culverts and other materials prior to the dispersal of funds.
10. WAC forester's can fund BMPs not detailed in the application by setting a reasonable cost-share rate.
11. Any application under consideration for approval which involves special or unique circumstances will be subject to the review and approval of the WAC Forestry Program Committee.
12. The WAC Forestry Program Committee will be notified of all completed applications receiving adjusted TLC cost-sharing rates.
13. Participants are eligible to receive funding to prepare a site for an upcoming harvest. BMPs installed to prepare a site before the harvest will be funded as a Forest Road project. BMPs installed during and after the harvest will be funded as a Timber Harvest Road project. Staff will track related Forest Roads and Timber Harvest Roads projects and report them as one completed project.
  - a. Loggers who have completed at least two BMP projects in the past three years are eligible to receive funds for pre harvest BMPs.
  - b. Loggers will provide a copy of a timber sale contract or agreement for the associated harvest prior to the approval of funds.

## Layout Funding:

Layout is unique when compared to other BMPs. Water bars, bridges and gravel produce tangible results on the ground that protect water quality. In contrast, layout is not a result. It is a plan for results that may or may not happen. The effectiveness of layout depends on how closely the finished trails and BMPs resemble the initial layout plan. For this reason the amount of layout payment issued is tied to the end results of the BMP project.

1. To be eligible to receive layout funding the participant must:
  - a. Draw the harvest boundaries, landing locations, primary skid trails, riparian management zones, stream crossings, regulated and non-regulated wetlands and any sensitive features (steep slopes, saturated soils and highly erodible soils) on a topographic map.
  - b. Identify the locations of BMPs on the map.
  - c. Determine the need for permits and get them if necessary.
  - d. Monitor and adjust the layout plan. Logging is dynamic. Weather changes. Timber prices fluctuate. Equipment breaks down. As these challenges arise the plan should change, existing BMPs should be maintained and new ones added.
2. 100% of the layout payment will be issued if the layout plan is implemented with minor deviations (example: changes that are made after prior notification to the WAC Watershed Forester).
3. 50% of the layout payment will be issued if the layout plan is implemented with moderate deviations (example: changes in the location of landings, primary and secondary skid trails outside of Riparian Management Zones)
4. 25% of the layout payment will be issued if the layout plan is implemented with major deviations (example: changes in the location of landings, stream crossings, primary and secondary skid trails within the Riparian Management Zone).
5. Participants can amend layout plans at any time during a harvest by detailing the changes in writing or email to the WAC Watershed Forester.
6. WAC Watershed Foresters will exercise professional judgement in determining what constitutes minor, moderate and major deviations.
7. Participants wishing to challenge a WAC Watershed Foresters layout funding determination can do so in writing or email to the WAC Forestry Program Manager.

## STREAM CROSSING COMPONENT

**Description:** WAC Forestry Program staff will work with applicants to develop and implement a plan for using appropriate BMPs within a stream crossing and its approaches.

### Procedures and Participation Requirements:

1. Staff will conduct three visits to each stream crossing site:
  - i. The first will be a preliminary visit to assess BMP needs and develop the Bridge Loan application. At this time the Forest Service BMP Monitoring Protocol will be used to assess the pre-harvest state of the stream crossing.
  - ii. A second visit will be conducted during the active use of the crossing to verify adherence to plans detailed in the Bridge Loan application.
  - iii. A third and final visit will be conducted to assess the implementation of BMPs and verify accomplishments for final payment. At this time the Forest Service BMP Monitoring Protocol will be used a second time to assess the post-harvest state of the stream crossing.
2. Stream crossings are composed of three component areas: Approach A, The Crossing and Approach B. Each area will receive 1/3 of the base rate in addition to the value of any supplemental BMPs installed within the area. Each area will be inspected independently to assess adherence to plans and specifications. WAC Forestry Program staff can exercise the ability to issue partial payments if any of these areas fails to meet minimum NYS BMP Guidelines.
3. The cost-sharing rates apply only to BMPs installed within each of the three component areas of a stream crossing. A base rate is included to offset the fixed costs associated with the heavy machinery required to implement required BMPs. Additional BMP cost-sharing is available for specific erosion control devices installed on a logging road outside the stream crossing area through the Erosion Control Component of the BMP Program.
4. Applicants will agree to follow the NYS Forestry BMP Field Guide regarding the proper installation of all BMPs, which are required to remain on the property following installation.
5. A Stream Crossing component project can be implemented in conjunction with an Erosion Control Component project.
6. Projects exceeding maximum funding per application requires prior approval from the WAC Forestry Committee.

7. Priority will be given to TLC applicants, applicants who have not previously received WFP cost-sharing, and stream crossing projects that are conducted on properties having specific water quality concerns.

## **STREAM CROSSING COMPONENT - PORTABLE BRIDGE LOAN**

**Description:** The Portable Bridge Loan component of the BMP Program loans stream crossing structures to eligible applicants and ensures appropriate Best Management Practices are used within the stream crossing approaches to protect water quality. The goal of the Bridge Loan Component is to prevent the movement of sediment below bank-full conditions during active logging operations and after logging has ceased.

### **Procedures and Participation Requirements:**

1. Structures available for loan: short-span (20') portable skidder bridges; long-span (30') temporary portable truck/skidder bridges; 1 long-span (40') temporary portable truck/skidder bridge; landing mats.
2. Bridges are available for loan within the watershed counties as deemed appropriate by WAC Forestry Program staff. Priority will be given to applications within the NYC watershed.
3. Applicants must submit a signed and completed application including directions to the bridge site for a WFP inspection and a valid certificate of insurance. Applications will be batched and approved on a weekly basis with priority given to TLC applicants.
4. Any application which involves special or unique circumstances will be subject to the review and approval of the WAC Forestry Committee.
5. All bridges are available for loan for a maximum of three (3) months and will remain the property of WAC. Individual deadlines may be extended by WAC only upon prior request from the logger and provided no other applicants have requested the bridge.

## **STREAM CROSSING COMPONENT - PORTABLE BRIDGE COST-SHARE**

**Description:** Funding reimbursement for building or purchasing a portable bridge.

### **Procedures and Participation Requirements:**

1. Contractors will be allowed a maximum of three (3) portable skidder bridge cost shares. The average operational lifetime of a portable skidder bridge is three years. In order to encourage continued participation subsequent “bridge replacement” applications beyond the maximum of three approved applications will be accepted. Prior to approval staff will review these applications for replacement bridges, inspect the previously cost-shared bridge to determine if the bridge has surpassed its operational lifetime and is in need of replacement.
2. All bridges that are cost-shared by WAC must be installed at least once on a logging site within the NYC Watershed.
3. Applicants must submit a completed application including directions to the bridge site for a WFP inspection prior to reimbursement. Design specifications must receive WFP approval and all receipts and invoices must be provided as well as a field inspection of the bridge in place prior to reimbursement. Applications will be approved on a first-come, first-served basis. Priority will be given to TLC and first time applicants.
4. Any application involving special or unique circumstances will be subject to the review and approval of the WAC Forestry Committee.

## **STREAM CROSSING COMPONENT - PORTABLE BRIDGE TRANSPORTATION, INSTALLATION & RENTAL**

**Description:** Funding reimbursement for transporting, installing or renting a portable bridge that will be used to cross a stream in the New York City Watershed.

### **Procedures and Participation Requirements:**

1. All bridge transportation, installation or rental that is cost-shared by WAC must be installed on a logging site within the NYC Watershed.
2. Applications will be approved on a first-come, first-served basis. Priority will be given to TLC and first-time applicants.
3. Any application which involves special or unique circumstances will be subject to the review and approval of the WAC Forestry Committee.
4. Funds allocated through this guideline will not count against the Erosion Control or Stream Crossing component funding caps.
5. Streams crossed with bridges that are transported, installed or rented using funds allocated through this guideline are required to participate in the Stream Crossing component.

## **BEST MANAGEMENT PRACTICE (BMP) FREE SAMPLE COMPONENT**

**Description:** Distribution of free BMP samples to encourage the use of new and under-used Best Management Practices among Loggers, Landowners and Foresters in the NYC Watershed.

### **Procedures and Participation Requirements:**

1. BMPs available for sample include: geotextile road fabric; silt fencing with stakes; grass seed; bales of hay/straw; straw wattles; spill kits.
2. All BMPs must be installed within the NYC Watershed and applicants will agree to complete an evaluation survey/feedback form following BMP installation.
3. Applicants must complete the Free Sample portion of the BMP Application to request samples. Applications will be approved on a first-come, first-served basis while supplies last. Priority will be given to TLC applicants.
4. Any application which involves special or unique circumstances will be subject to the review and approval of the WAC Forestry Committee.

## BEST MANAGEMENT PRACTICE PROGRAM FUNDING RATES

| Erosion Control Component         |              |          |
|-----------------------------------|--------------|----------|
| Practice                          | Regular Rate | TLC Rate |
| Road Layout (ft)                  | \$0.15       | \$0.15   |
| Re-grading (ft)                   | \$0.10       | \$0.12   |
| Relocation (ft)                   | \$0.73       | \$0.76   |
| Post Harvest Stabilization (acre) | \$208.58     | \$312.89 |
| Corduroy (ft)                     | \$42.36      | \$63.55  |
| Water Bars (each)                 | \$40.04      | \$56.05  |
| Broad Based Dips (each)           | \$119.70     | \$167.78 |
| Rolling Dips (each)               | \$79.87      | \$111.82 |
| Geotextile Fabric (ft)            | \$1.30       | \$1.96   |
| WOH Gravel (yard)                 | \$56.65      | \$84.93  |
| Culverts (10-15") (ft)            | \$31.42      | \$47.14  |
| Culverts (18") (ft)               | \$36.57      | \$54.87  |
| Culverts (24") (ft)               | \$49.96      | \$76.14  |
| Culverts (36") (ft)               | \$61.80      | \$92.70  |
| Culverts (48") (ft)               | \$84.80      | \$126.57 |
| Silt Fencing (ft)                 | \$3.00       | \$4.18   |
| Hay Bales (each)                  | \$16.38      | \$32.89  |

| Stream Crossing Component                 |              |            |
|-------------------------------------------|--------------|------------|
| Practice                                  | Regular Rate | TLC Rate   |
| Implementing Plan (per component)         | \$260.74     | \$325.93   |
| Corduroy (ft)                             | \$42.36      | \$63.55    |
| Water Bars (each)                         | \$80.19      | \$112.24   |
| Post-Harvest Stabilization (acre)         | \$130.37     | \$182.52   |
| Portable Bridge Cost Share                | \$1,303.67   | \$1,955.50 |
| Portable Bridge Transportation, Or rental | \$1,466.63   | \$2,607.32 |

| BMP Program Maximums      |            |             |
|---------------------------|------------|-------------|
| Component                 | Rate       | TLC Rate    |
| Road Layout               | \$1,799.29 | \$1,799.29  |
| Erosion Control Component | \$8,995.30 | \$11,353.31 |
| Stream Crossing Component | \$5,397.18 | \$6,811.98  |



# **Forestry Education & Training**

## **URBAN/RURAL EDUCATION INITIATIVE (UREI)**

The mission of the Watershed Forestry Education programs is to empower educators to effectively teach their audiences about the New York City Watershed and the connection between healthy forests and water quality especially as it relates to the NYC water supply system. Learning goals include understanding: 1) watershed form and function; 2) the NYC water supply system; 3) how trees and forests filter and protect water quality; and 4) the past, present, and future human dimensions of the NYC Watershed. The following core program areas constitute a comprehensive approach to reaching teachers and students in the rural, suburban and urban communities of the NYC Watershed region:

- 1. Watershed Forestry Institute for Teachers (WFIT) - Page 45**
- 2. Watershed Forestry Field Trip Program - Page 47**
- 3. Virtual Watershed Forestry Field Trips - Page 51**
- 4. Green Connections Program - Page - 52**
- 5. Green Connections Lite - Page - 56**
- 6. Watershed Forestry Education Community of Practice - Page - 58**

Speaker stipend rate for UREI, Logger Training and Landowner Education events: Only speakers who have unique knowledge or perspectives as judged by the Forestry Program Manager are eligible to receive a speaker stipend. Prospective speakers must submit a draft agenda and justification of their qualifications to WAC for review and approval prior to the event. Approved speakers will receive a \$100 per hour plus mileage to and from the event calculated at the federal mileage reimbursement rate. The speaker stipend will not exceed \$800 per event. Speakers representing City, County, State or Federal agencies are not eligible to receive a speaker stipend.

## 1. WATERSHED FORESTRY INSTITUTE FOR TEACHERS (WFIT)

**Description:** The WFIT is a 5-day summer professional development program designed to inform, inspire, and equip teachers to teach their students about NYC Watershed forestry. The WFIT immerses 4th – 12th grade teachers from New York City and the upstate NYC Watersheds in a hands-on study of NYC Watershed forestry. Teachers are trained in several environmental education curricula, practice hands-on activities about watersheds and forestry, go on field trips to discover first-hand how trees and forests protect water quality, learn from a variety of resource professionals and join an active community of practice of watershed educators. Field trip sites may include a WAC model forest, NYCDEP drinking water reservoir, active timber harvest site, Watershed Forestry Field Trip destinations, and more. Participants develop Action Plans that describe how they plan to integrate watershed forestry education into their teaching during the following school year. WFIT graduates are encouraged to attend ongoing trainings and apply to the Watershed Forestry Field Trip or Green Connections programs. Completing the WFIT is a prerequisite for applying to Green Connections.

**Eligibility:** Priority is for 4-12th grade teachers and non-formal educators working in municipalities wholly or partially within the East or West of Hudson Watersheds or the 5 boroughs of NYC. Educators working in upstate consumer municipalities may be considered if space is available. Each year the target audience alternates between 4-8th and 6-12th grade teachers in order to provide specialized training. Past WFIT participants may reapply after five or more years have passed since their previous WFIT.

### Procedures and Participation Requirements:

#### 1. Application Submission and Approval

- A. Applications are available on the WAC website and are due in May. Applicants are notified of their approval status within 2 weeks of the application submission deadline.
- B. Participation is limited to 30 teachers and recruitment efforts strive to achieve a mixture of participants from NYC and the upstate NYC Watersheds.
- C. The EOH Forestry Program Coordinator reviews and approves submitted applications using the criteria below. The Watershed Forestry Education Working Group may be asked to assist with application approval on an as-needed basis:
  - i. Ability to fully participate in the 5-day Institute, including staying at the facility overnight with fellow participants;

- ii. Interest in forestry and water resources and enthusiasm for the outdoors and environmental education;
- iii. Capacity and commitment to integrate WFIT information, practices and resources into their teaching during the following school year and, ideally, beyond;
- iv. Preference is given to teachers who apply from the same school and/or to teachers who work with a previous WFIT graduate at their school, so as to maximize the potential for collaboration and implementation; and
- v. Some preference is given to teachers working with the same grades/ages, so as to maximize the potential for developing upstate/downstate partnerships.

## 2. WFIT Participant Requirements

- A. Approved participants receive a packing list and all food, lodging and materials are provided. Participants are responsible for their own transportation to and from the Institute and, when possible, a shuttle to and from a nearby Metro North train station is provided.
- B. Participants actively engage in all WFIT programming, including presentations, field trips, demonstrations, lessons, and reflection activities.
- C. Participants develop Action Plans that describe what select WFIT information, practices, resources and/or professional assistance they plan to integrate into their teaching during the following school year.
- D. Participants are strongly encouraged to develop upstate/downstate partnerships and to consider applying to Green Connections, for which WFIT is a prerequisite.

## 2. WATERSHED FORESTRY FIELD TRIP PROGRAM

**Description:** The Watershed Forestry Field Trip Program is a competitive grant program that helps pay for transportation, programming and/or lodging costs associated with 1 of 4 types of Watershed Forestry Field Trips to the NYC Watershed region (Catskill/Delaware and Croton systems). Maximum grant funding amounts are adjusted annually and current funding rates are posted on the program website at [nycwatershed.org/fieldtrips](http://nycwatershed.org/fieldtrips). The purpose of the Watershed Forestry Field Trip Program is to educate the public, especially students, about the NYC Watershed's lands, waters, and people with a special focus on how trees and forests protect water quality. A program priority is to help NYC students visit a NYC-DEP drinking water reservoir and forested landscape for the very first time.

**Eligibility:** Any organization, community group, or 4-12th grade classroom in municipalities wholly or partially within the East or West of Hudson Watersheds or the 5 boroughs of NYC. Student groups younger than 4th grade may be considered for funding if specific watershed and forestry learning outcomes are part of the proposed tour and associated teaching plan. All previous Watershed Forestry Education grants must be closed-out before an applicant is eligible to apply for a new Field Trip grant.

### Procedures and Participation Requirements:

1. Application Submission and Approval
  - A. Applications are available on the WAC website and there are 2 rounds of funding awarded each year with applications due in early January and August. Applications are reviewed and approved by the Watershed Forestry Education Working Group and applicants are notified of their approval status within 6 weeks of the application submission deadline.
  - B. Applicants may apply for 1 of 4 Field Trip options, including: 1. Environmental Education Center; 2. Trout in the Classroom Trout Release; 3. Trees for Tribs Tree Planting; and 4. Adult Professional Development. All options include a visit to a NYC-DEP drinking water reservoir.
  - C. Funding is competitive: Approximately 45% of funding is allocated to new student groups, 45% to repeat student groups and 10% to adult professional development groups. Partial funding is often awarded and is intended to primarily help pay for transportation costs associated with a Field Trip.
  - D. The following criteria are used to review and approve Field Trip applications:
    - i. Completeness of application (including application form, budget table, proof of matching funds,

- identification of individual responsible for budget and reporting, and proof of administrative support);
- ii. Description of teaching plan related to the tour, including how the tour relates to the existing curriculum/program and what teaching activities are planned for before, during and after the tour;
- iii. Preference for funding goes to applications focused on all 3 of the following themes: 1. Watershed form and function; 2. How trees and forests protect water quality and provide other benefits; and 3. The NYC drinking water supply system.
- iv. Some preference may be given to applications that include: Teachers who have attended the WFIT, significant financial need (e.g. Title 1 schools), teaching plans that integrate service or stewardship projects, and/or teachers with excellent participation track records in WAC and other education programs.

## 2. Watershed Forestry Field Trip Participant Requirements

- A. Grant Period: Grantees must implement their field trip within the school year during which they are awarded the grant. They have until June 15th of that school year to close out the grant.
- B. Orientation: Once funding has been awarded, each new participant is required to meet with the EOH Forestry Coordinator for an orientation meeting, which includes a discussion of grant terms and requirements, field trip logistics, teaching plan, and other opportunities to support participant environmental education efforts.
- C. Payment: Participants have two (2) weeks from the date of their contract letter to submit:
  - 1. Completed and signed contract;
  - 2. Quotes for trip expenses, including bussing and programming;
  - 3. W-9 tax identification form;
  - 4. Proof of liability insurance (if required, see D below).

Upon receipt of these items, the grant funds will be paid in a single check to the entity listed on the submitted W-9 form and grant funds will not exceed the quoted costs. If the field trip is NOT executed during the grant period, the grantee must:

- i. Request a one (1)-year extension for the execution of the trip; or
- ii. Return the grant funds in full to WAC via check.

- D. Insurance: Public schools are insured through their school district and are not required to submit proof of insurance to WAC. Alternatively, private schools, non-profit organizations, or other entities that are NOT public schools, must submit proof of insurance to WAC indicating general liability coverage with limits of \$1 million per occurrence with a \$2 million general aggregate covering all obligations of the participant in regards to the field trip. The participant's legal counsel shall name the Watershed Agricultural Council as additionally insured.
- E. Grant Requirements: Participants are required to submit proof of completion of the following program requirements within the grant period.
  - 1. Five (5) photos from the trip;
  - 2. Three (3) examples of student work exemplifying participants' watershed forestry learning from before, during, and/or after the trip;
  - 3. Online post-trip teacher survey.

At the discretion of WAC, failure to meet these requirements may disqualify the grantee future funding. If the grantee has difficulty meeting program requirements at any time, they must contact WAC to discuss the situation as soon as possible.

- F. Cell Phones and Behavior Code: Cell phones may not be used during field trip programming and all devices, including headphones, must be put away during these times. Accommodation will be provided for students with special learning needs. If teachers want students to document parts of the trip with phones, specific times/locations for this must be designated in advance and communicated to students and field trip presenters. All field trip participants must follow the "School Trips" regulations as set by the Office of the Chancellor of the New York City Department of Education, which can be provided by WAC upon request. If the behavior code is not followed, participants may be asked to leave the facility.
- G. Chaperone Responsibilities: Chaperones help provide a safe and educational experience for students. To ensure an excellent learning experience for all, grantees must discuss the following responsibilities with all participating chaperones:
  - 1. Be prepared to assist with student behavior management
  - 2. Be a good role model, particularly during lessons, by silencing phones, following instructions, avoiding chatting, and being open to new experiences

3. To maximize student learning, do not interrupt a lesson and let students ask and answer the questions.
- H. Photo/Video/Press Coverage: Participants agree to allow the use of their group's name in press coverage for the Watershed Forestry Field Trip program and to have their group featured in related media coverage. If grantees have concerns about the safety/consent of certain individuals in their group, they may request that WAC only use photos/videos screened and submitted by the grantee in any type of media coverage.
  - I. DEP Annual Field Trip: The maximum funding cap for WAC's annual DEP Field Trip is \$4,000.00. The total approved funding amount is subject to WAC approval and may be less.

### 3. VIRTUAL WATERSHED FORESTRY FIELD TRIPS

**Description:** WAC staff provide free live virtual field trips to the New York City Watershed so students can experience the reservoirs, streams, forests and infrastructure of the NYC Watershed and water supply system. WAC staff join classes live via Zoom from the NYC Watershed and lead students in hands-on science activities.

**Eligibility:** Any organization, community group, or 4-12th grade classroom in municipalities wholly or partially within the East or West of Hudson Watersheds or the 5 boroughs of NYC. Student groups younger than 4th grade may be considered for funding if specific watershed and forestry learning outcomes are part of the proposed tour and associated teaching plan.

#### Procedures and Participation Requirements:

1. Booking a Virtual Field Trip
  - A. Teachers complete an online booking form found on the WAC website Virtual Field Trips webpage, preferably at least 2 weeks prior to the desired trip date.
  - B. WAC staff respond to teacher and work collaboratively to schedule dates and times for the trip(s).
2. Participant Requirements
  - A. Teachers choose from different trip options. All field trips include visiting a NYC drinking water reservoir to learn about where, why, and how the NYC water supply system was built and the special role forests play in filtering and protecting water quality. Specific trip options include, but are not limited to:
    - i. NYC Watersheds & Reservoirs– How does the NYC Watershed work?
    - ii. Trees to Tap: Planting Trees for Clean Water– How do trees protect water quality?
    - iii. Trout and Trees in the NYC Watershed– How do we assess water quality for trout and people?
  - C. Timing and Technology: Virtual field trips can run anywhere from 40 minutes to 1.5 hours, depending on the teacher's schedule and preference. Typically, teachers send WAC staff a Zoom or Google Meet link to join their class. Alternatively, WAC may host the field trip through a WAC Teams account.
  - D. Pre- and Post-trip materials: WAC staff provides optional pre- and post-trip teaching materials including an introductory lesson about NYC Watershed forestry and a post-trip reflection Padlet, in which students reflect on their learning from the trip and ask follow-up questions to the presenters.

## 4. GREEN CONNECTIONS PROGRAM

**Description:** Green Connections is a competitive grant program that awards funding to help pay for year-long partnerships between upstate and downstate Teacher Partners and their classrooms. Maximum grant funding amounts are adjusted annually and current funding rates are posted on the program website at [nycwatershed.org/greenconnections](http://nycwatershed.org/greenconnections). The mission of the Green Connections program is to meaningfully connect students from New York City and the NYC Watershed region through personal communication and shared experiences with the world-famous NYC water supply system from forest to tap. Program goals include: 1. Fostering rural/suburban NYC Watershed and urban NYC water recipient students' meaningful connection with each other, each other's way of life, and the two contrasting, yet interconnected environments in which they live; and 2. Inspiring students to actively practice stewardship of trees and water. To achieve these goals, students from upstate NYC Watershed and downstate NYC classrooms become pen pals for a school year. Student pen pals exchange letters, learn from a common watershed curriculum, do a local stewardship activity, and share hands-on watershed experiences on two joint field trips—one to NYC and one to the upstate NYC Watershed region.

**Eligibility:** Any 4th-8th grade classroom teacher working in a municipality wholly or partially within the East or West of Hudson Watershed or the 5 boroughs of NYC who has attended the Watershed Forestry Institute for Teachers (WFIT) is eligible to apply. Teacher Partners submit separate applications. All previous Watershed Forestry Education grants must be closed-out before an applicant is eligible to apply for Green Connections.

### Procedures and Participation Requirements:

1. Application Submission and Approval
  - A. Applications are available on the WAC website and there is 1 round of funding awarded each year with applications due in August. Teacher Partners submit separate applications. Applications are reviewed and approved by the EOH Forestry Program Coordinator with assistance from the Watershed Forestry Education Working Group on an as-needed basis. Applicants are notified of their approval status within 6 weeks of the application submission deadline.
  - B. The following criteria are used to review and approve Green Connections applications:
    - i. Successful completion of the Watershed Forestry Institute for Teachers (WFIT);
    - ii. Appropriate grade levels (4-8th) and subject matter taught by Teacher Partners;

- iii. Completeness of application (including application form, budget table, proof of matching funds and proof of administrative support);
- iv. Description of interest in program, including how the program connects to the existing curriculum, initial ideas for upstate and downstate field trip experiences, thoughts on the value of student pen pal relationships and how to help students develop positive relationships, and ideas for a local stewardship project; and
- v. Some preference may be given to applications that include: Significant financial need (e.g. Title 1 schools) and/or teachers with excellent participation track records in WAC and other education programs

## 2. Green Connections Participant Requirements

- A. Green Connections participants have until June 15th of the fiscal year/school year in which their grant is approved to complete the grant process.
- B. WAC Staff are responsible for facilitating successful classroom partnerships and field trips. WAC Staff support Teacher Partners through all aspects of the program and new Teacher Partners receive extra support.
- C. Participants attend a kick-off meeting, in which teachers meet with one another and WAC Staff to review program requirements and begin planning for the year.
- D. Teacher Partners facilitate a year-long student buddy friendship. Pen pals exchange at least 3 communications with each other, beginning with an Environmental Exchange Box. Students remain with their pen pals on field trips, sharing these experiences and showing their local environments to one another.
- E. Throughout the school year, each teacher completes a selection of 7 engaging activities (provided and self-curated) designed to teach students about the NYC Watershed and water supply system, including how people and forests impact water quality.
- F. Partner Classrooms go on 1 Field Trip in the fall and 1 in the spring. New Teacher Partners collaborate with WAC Staff to identify trip options, create schedules, and reserve programming. With WAC approval, repeat Teacher Partners may coordinate trip logistics and plan schedules independently.

- i. During Field Trips, all participants must follow the “School Trips” regulations as set by the Office of the Chancellor of the New York City Department of Education. Field trip participants are NOT permitted to use portable electronic devices (e.g. cell phones, headphones, gaming devices, etc.) during active programming and may only use them when field trip hosts and presenters give them permission to do so. If the behavior code is not followed, participants may be asked to leave the facility.
  - ii. Well-prepared chaperones make field trips safe and educational. To ensure an excellent learning experience for all, the following responsibilities must be discussed with all participating chaperones before field trips begins: 1. Actively encourage student buddies to remain together; 2. Be prepared to assist with student behavior management; 3. Be a good role model, particularly during lessons, by following instructions, silencing cell phones, avoiding chatting, and being open to new experiences; and 4. To maximize learning for students, do not interrupt a lesson and let students ask and answer the questions.
- G. Sometime during the school year, each Partner Classroom does a stewardship activity related to trees, forests and/or water quality. The purpose of this experience is to help students connect with and care for their local environment. WAC Staff assists with planning these activities, which may include tree planting, stream or park clean-ups, water quality monitoring, etc.
- H. Together, partnerships receive funding (current maximum funding amounts are available at [nycwatershed.org/greenconnections](http://nycwatershed.org/greenconnections)), which may be used for transportation, programming, and Field Trip food and safety-related items. WAC Staff typically reserves and pays directly for field trip buses and programming. Teachers typically pay for field trip meals, safety-related items, and supplemental transportation, for which they are reimbursed at the conclusion of the program.
- I. To successfully complete the program and receive final reimbursement payment, participants must submit proof of completion of the following program requirements by June 15:
  - i. For Green Connections, participants must submit copies of paid receipts for field trip expenses (i.e. program fees, meals, safety-related items or supplemental transportation);
  - ii. Record and provide requested documentation for program activities in a timely manner;
  - iii. Ensure students complete pre- and post-program student learning assessment activities in the

- classroom;
  - iv. Communicate with WAC Staff and Teacher Partner at least monthly;
  - v. Schedule 1-2 classroom visits with WAC Staff;
  - vi. Engage students in 7 activities from the Green Connections curriculum;
  - vii. Complete at least 3 rounds of correspondence between student pen pals;
  - viii. Conduct 2 joint field trips (one to an upstate NYC Watershed location and one to NYC); and
  - ix. Engage students in a local stewardship project related to trees, forests and/or water quality.
- J. At the discretion of WAC, funding reimbursement may be forfeit by participants who do not complete these minimum requirements. Teachers failing to meet these requirements will also be unlikely to receive future funding. If at any time a participant has difficulty meeting program requirements, they must contact the EOH Forestry Program Coordinator to discuss the situation as soon as possible.
- K. Participants agree to allow the use of their group's name in press coverage for Green Connections and to have their group featured in related media coverage of the program. Participants may request that the identities of specific individuals be omitted from press coverage for safety reasons.

## 5. GREEN CONNECTIONS LITE

**Description:** Green Connections LITE is an easy, flexible way for new participants to start incorporating upstate/downstate student interactions into their teaching. The program supports distance learning between groups of upstate and downstate students. All interactions are conducted remotely and Teacher Partners have a lot of flexibility to determine the format, content, and frequency of the exchanges.

**Eligibility:** 4-12th grade teachers or non-formal educators working wholly or partially within the NYC Watershed or the 5 boroughs of NYC.

### Procedures and Participation Requirements:

1. Application Submission and Approval
  - A. Teacher Partners submit separate applications, which can be downloaded at: [nycwatershed.org/greenconnections](http://nycwatershed.org/greenconnections). Applications are accepted on a rolling basis throughout the year and are evaluated based on completeness and understanding of time commitment and requirements.
2. Green Connections Lite Participation Requirements
  - A. Teacher Partners communicate regularly and work together to plan when and how their students will interact. Participating teachers may apply in conjunction with a Teacher Partner of their choice or they may request assistance with finding a Teacher Partner.
  - B. Student Relationships: Teacher Partners may choose to have students interact one-on-one in student pairs, in small groups or as a whole class.
  - C. Exchange Content: Content should convey information about students' lives, environments (both built and natural), and communities. Students are encouraged to exchange questions and answers about one another. Students may also share about their learning related to watersheds, forests and the NYC water supply system and/or other academic topics.
  - D. Exchange Format: Partnerships should complete 1-3 exchanges (send, receive, respond) during the school year. Teacher Partners may choose to have students interact via a wide variety of formats, depending on their preferences, schedules, access to technology, etc. Possible options include written letters,

Environmental Exchange Boxes that contain artifacts (made, found, bought) that convey information about one's environment and community, photos, email, blog posts, video clips, live video chatting, scientific data, etc.

- E. Role of the WAC staff: WAC staff supports Teacher Partner communications through regular email and/or phone check-ins and assistance with planning and scheduling student interactions.
- F. Funding: Together, partnerships receive up to \$500.00 to pay for materials and postage used for student exchanges.
- G. Requirements: To successfully complete the program and receive final reimbursement payment, participants must submit proof of completion of the following program requirements by June 15th of the school year in which they are participating:
  - i. Documentation of at least 1 student exchange (send, receive, respond) with their partners; and copies of paid receipts for eligible expenses.

## 6. WATERSHED FORESTRY EDUCATION COMMUNITY OF PRACTICE

**Description:** WAC helps create and maintain a community of practice of watershed forestry educators. WFIT, Watershed Forestry Field Trip, and Green Connections participants form the core of this community, which also extends to other classroom teachers, non-formal educators and environmental education partners. WAC actively engages, assists, and celebrates educators from across the NYC Watershed region in order to empower and motivate them to teach about NYC Watershed forestry now and into the future. Not only does training and supporting educators yield student learning outcomes, but investing in them also results in greater public awareness of NYC Watershed forestry and stewardship. Strategies used to maintain strong, positive relationships among educators, WAC, and partner organizations include: 1. Teacher Resources webpage; 2. Watershed Forestry Education e-newsletter; 3. WAC Watershed Forestry Education trainings.

### Procedures:

1. Teacher Resources Webpage
  - A. Maintain public webpage on WAC website that includes curated, high-quality resources and materials for teaching about NYC Watershed forestry topics. Content includes videos, readings, curricula, activities, websites, and information about field trips and other grant opportunities.
2. Watershed Forestry Education E-newsletter
  - A. Periodically emailed to network of educators and partners to communicate funding, training, event, and resource opportunities, including WFIT, Field Trip, and Green Connections application deadlines. The e-newsletter may also feature teacher success stories to inspire action in others.
3. WAC Watershed Forestry Education Trainings
  - A. WAC Staff organize and run several trainings and/or social events for educators annually at different times and locations in NYC and the NYC Watershed region.
  - B. Winter WFIT: Given that many educators are unable to attend the 5-day WFIT due to scheduling conflicts, a 1-day watershed forestry training is offered in NYC in the winter that features a local environmental institution and/or expert.
  - C. At least once per year, NYC Watershed forestry trainings are offered to the education staff at the environmental education centers that are Field Trip destinations. These trainings help prepare field educators to deliver instruction during Watershed Forestry Field Trips that connects deeply with WAC program themes.
  - D. WAC Staff are available to present information and lead education activities related to NYC Watershed forestry at partner workshops and events.

# LOGGER EDUCATION INITIATIVE

**Description:** The WAC Forestry Program promotes and supports Trained Logger Certification (TLC) within the NYC Watershed region. TLC is coordinated on a statewide basis by New York Logger Training, Inc. (NYLT) and within the NYC Watershed region by the WAC Forestry Program.

**Eligibility:** Any Timber Harvester who conducts 25% of his/her work within the NYC Watershed.

## **Procedures and Participation Requirements:**

1. TLC is awarded to loggers who have completed the three core courses: Adult First Aid/CPR, Forest Ecology & Silviculture, and Game of Logging Level 1 (a chainsaw safety class). The three core TLC courses are offered twice annually, once in the spring and again in the fall.
2. Upon receiving their TLC, loggers are certified for a three year period. Over this period loggers must complete three continuing education credits in order to be eligible to renew their certification for an additional three year period. In addition to the three core courses, a minimum of one continuing education course will be offered each year to provide loggers with the opportunity to maintain their certification. The following are examples of continuing education courses that have been offered in previous years: Skidder Bridge Construction, Log Bucking for Quality, Advanced Logger Rescue, Vernal Pools and an Introduction to GPS Units.
3. A calendar of events identifying training opportunities is printed and distributed each January.
4. Local saw mills are encouraged to participate in the TLC mill rate incentive program where TLC loggers receive approximately \$5/mbf (refer to annual Logger Training Calendar for current rates).
5. WAC will provide a reimbursement of 75% of the cost of non WAC workshop expenses for Catskill/Lower Hudson loggers attending non-WAC sponsored logger training events. Loggers are required to provide documentation of the total cost of the workshop as well as their attendance.
6. The WAC Forestry Program gives priority to TLC certified and Master Logger Certified loggers when approving BMP Implementation Program applications in addition to providing TLC Incentive rates for Best Management Practices (Refer to the BMP Implementation portion of this handbook for specific TLC Incentive opportunities).

7. Professional loggers will be given registration preference for WAC-funded logger training workshops and receive a lower registration fee of \$25. Non-loggers will be placed on a wait list and given the opportunity to participate if space is available. Non-loggers are required to pay the full workshop cost to participate, approximately \$200 per participant for GOL classes.
8. WAC will provide a reimbursement of 75% of the cost to Catskill/Lower Hudson loggers, who have completed at least two BMP projects in the preceding three years, to aid in obtaining Master Logger Certification. Loggers are required to provide documentation of certification prior to reimbursement.

## FORESTER TRAINING

**Description:** The WAC Forestry Program supports continuing education for foresters within the NYC Watershed region to enable them to become “Watershed Qualified” and therefore eligible to receive 480a incentive funding. Each year, the WAC Forestry Program provides opportunities for new foresters to become Watershed Qualified. This one-day session highlights important topics such as BMP Implementation and Forest Management Planning. It also introduces Foresters to WAC Forestry Program staff, the administrative process for writing Watershed Forest Management Plans, and various other program opportunities. In addition to offering the “Becoming a Watershed Qualified Forester” session, the WAC Forestry Program also offers various continuing education opportunities covering topics such as GPS/GIS Technology, Portable Bridges and Deer Density Surveys.

**Eligibility:** Training opportunities are open to all Foresters. Individuals who desire to become a Watershed Qualified Forester must have a B.S. or associate degree in forestry.

### **Procedures and Participation Requirements:**

1. WAC Forestry Program staff conduct trainings with foresters to make them Watershed Qualified Foresters. Foresters must attend a Watershed Qualified session with a WAC Forester before being added to the Watershed Qualified Forester List.
2. Watershed Qualified Foresters are required to attend additional educational courses deemed necessary by WAC Forestry Program staff in order to remain Watershed Qualified.

## LANDOWNER EDUCATION

**Description:** The WAC Forestry Program supports numerous forest landowner workshops and other educational programs throughout the watershed annually. These workshops engage watershed landowners in becoming better stewards of their woods and help them realize the opportunities available to them as forest landowners. Landowner education programs are advertised online as well as in mailings and newsletters.

- Master Forest Owner Program
- Landowner Letter Series
- Landowner Education Workshops
- Women Owning Woods (WOW)



## **Research & Demonstration**

# MODEL FOREST PROGRAM

**Description:** The Watershed Forestry Program operates four model forests in the Catskill/Delaware and Croton Watersheds. Each Model Forest is a living classroom with various BMPs, sivicultural prescriptions, invasive species descriptions, and water quality protection issues on display for the public to view first-hand. In addition, the Model Forests are research facilities for scientists from universities and government agencies to conduct experiments on the relationship between timber management and water quality. The Model Forest Network is a collaborative venture involving the State University of New York College of Environmental Science and Forestry (SUNY-ESF), US Army Corps of Engineers, New York City DEP, New York State DEC, USDA Forest Service, US Geological Survey and many others. The forests offer excellent examples of hands on forestry in a beautiful hiking and snowshoeing setting. Visit [mywoodlot.com/model-forests](http://mywoodlot.com/model-forests) for more detailed information on each model forest and a virtual tour.

- 1. The Lennox Model Forest** is located in Delhi, NY in Delaware County. Lennox is the first Model Forest Program site, blending natural resource education with outdoor exploration. Managed with Cornell Cooperative Extension (CCE), this forest is a living classroom and research site, honoring John A. Lennox's legacy. Open to all for workshops, walks, and scientific study, it's equipped for events with its central facility. Visit year-round for a unique learning experience. Contact CCE Delaware County before your journey.  
Contact: 2420 Arbor Hill Road  
Delhi, NY 13753  
(607) 865-6531 | [ccedelaware.org](http://ccedelaware.org)
- 2. The Frost Valley YMCA Model Forest** is located on the campus of the Frost Valley YMCA Camp in Claryville, NY in Ulster County. Opened in 2003, Frost Valley Model Forest is a beacon of environmental education and outdoor enjoyment. Managed by Frost Valley YMCA, it offers stunning views, educational trails, and an enriching atmosphere for all visitors. From professional workshops to recreational hikes and scientific research, the forest is a hub for learning and exploration, complete with interpretive trails and an indoor classroom. Open year-round during daylight hours, it's perfect for anyone eager to connect with nature and learn more. Visitors to the Frost Valley Model Forest are asked to register at the Frost Valley Administration Building, one mile from the trail head.  
Contact: 2000 Frost Valley Road  
Claryville, NY 12725  
(845) 985-2291 | [frostvalley.org](http://frostvalley.org)

3. **Siuslaw Model Forest** is located in Acra, NY, Greene County. Located on Route 23, the gateway to the Catskills, Siuslaw Model Forest is a hub for educational exploration, easily accessible from major cities. Managed by Cornell Cooperative Extension, it's part of the Agroforestry Resource Center (ARC), featuring a 5,000 sq ft facility with classrooms for local workshops. This 142-acre forest introduces innovative agroforestry practices, like mushroom and ginseng cultivation, aiming to enhance understanding of sustainable land use. Open Monday-Friday, 8:30am to 4:00pm, visitors should sign in at the ARC before exploring the trails.  
Contact: 6055 Route 23  
Acra, NY 12405  
(518) 622-9820 | [ccecolumbiagreene.org](http://ccecolumbiagreene.org)
4. **Clearpool Model Forest** is located in Carmel, NY (Putnam County). Nestled in Putnam County, the 264-acre Clearpool Model Forest offers a unique blend of environmental education and outdoor adventure. Managed by Green Chimneys, it features sustainable forestry practices, an active sugarbush and scenic trails. Centered around a 10-acre lake, it's perfect for workshops and events. Emphasizing education, outreach, and collaboration, it's a must-visit for nature lovers and learners alike. For more details on events and visits, check out Green Chimney's Clearpool Campus website.  
Contact: 33 Clearpool Road  
Carmel, NY 10512  
(845) 225-8226 | [greenchimneys.org](http://greenchimneys.org)

## **Procedures and Participation Requirements:**

1. **Committee Approval:** One of the benefits of the Model Forest Program is the exploration of innovative methods for transferring knowledge regarding forest stewardship and water quality to various target audiences. To maximize this benefit the WAC Forestry Program Committee encourages a creative atmosphere within each Model Forest partnership. The Committee will maintain an open-door policy by reviewing all proposals for funding submitted by Model Forest Program partners. Proposals will seek to provide the Committee with all relevant information regarding the request, a summary of goals, anticipated outcomes, evaluation techniques, as well as a detailed estimate of cost. All proposals will be submitted to the Model Forest working group for initial review and advancement to the WAC Forestry Program Committee. For more information about the Model Forest working group please contact the WAC Research and Evaluation Forester.
2. **Maintenance:** Routine maintenance is eligible for funding by the WAC Forestry Program. Maintenance activities such as hazard tree removal, brush hogging, mowing, demonstration maintenance, sign replacement and boundary line maintenance are eligible for funding. Maintenance costs in excess of \$3,000 per Model Forest annually must be pre-approved by the WAC Forestry Program Committee. Requests in excess of \$3,000 must be submitted in writing to the Model Forest working group at least 6 months prior to desired implementation. The request must include a summary of the activity, a detailed budget and schedule for implementation.
3. **New Demonstrations:** New demonstrations are eligible for funding by the WAC Forestry Program. All demonstrations must seek to communicate knowledge concerning forest stewardship and/or water quality to one of the Model Forest target audiences. New demonstrations such as agro-forestry projects, silvicultural prescriptions, Best Management Practices, and general environmental education topics are eligible for funding. New demonstrations whose cost exceeds \$500 require pre-approval from the WAC Forestry Program Committee. Requests in excess of \$500 must be submitted in writing to the Model Forest working group at least 6 months prior to desired implementation. The request must include a summary of the activity, a detailed budget and schedule for implementation.
4. **Outreach Material:** Outreach material is eligible for funding by the WAC Forestry Program. Outreach material such as signs, brochures, advertising and web-based resources are eligible for funding. Requests in excess of \$1,000 must be submitted in writing to the Model Forest working group at least 6 months prior to desired implementation. The request must describe the project and include a detailed budget.

5. Education Material: Education material is eligible for funding by the WAC Forestry Program. Education materials such as GPS units, handouts, books, computers and computer software are eligible for funding. Requests in excess of \$500 must be submitted in writing to the Model Forest working group at least 6 months prior to desired implementation. The request must describe the project, include a detailed budget, identify educational outcomes and describe methods for evaluation.
6. Model Forest Host Funding Guideline: The coordinator from the relevant Model Forest Host will provide the following documentation when seeking reimbursement from the WAC Forestry Program for funds used to implement an approved maintenance, new demonstration, outreach material or education material project: An invoice from the host organization documenting non-material expenditures as well as receipts documenting materials purchased to complete the project.





## **WAC Conservation Easements**

# FOREST HARVEST PLAN GUIDELINES

The Easement Committee establishes the following guidelines for forest harvests on easement properties and properties in contract:

- 1. Where required in a conservation easement and the purchase and sales contract, forest harvests will only be conducted on properties that:**
  - A. Have a Forest Management Plan (FMP) that has been approved by WAC within the past ten (10 ) years consistent with the Forest Management Plans Guidelines (dated April 16, 2009)
  - B. Have a WAC Forest Harvest Plan (FHP) that has been approved by the Easement Committee.
- 2. The FHP is a plan that is intended to:**
  - A. summarize the information and activities regarding specific forest harvests,
  - B. ensure harvest activities, including optional silvicultural practices and required best management practices implementation are consistent with water quality protection,
  - C. provide a basis for reviewing and approving the plan, and
  - D. outline the requirements to which the landowner must adhere.
- 3. All FHPs will contain the following required information:**
  - A. Landowner information:
    - i. Date of plan and landowner name, mailing address and other contact information and WAC property ID.
  - B. Property information:
    - i. Verification and date of FMP completion. If the landowner does not have a WAC approved FMP, the landowner must first obtain a FMP as per the Easement Committee FMP Guidelines (April 16, 2009).
    - ii. Name and contact information of forester or person completing FHP.
    - iii. Name and contact information of logger or person(s) conducting the harvest activities.
    - iv. Term of the contract if applicable, proposed beginning and end dates of project.
    - v. Objectives for the harvest.
  - C. Job size and scheduling:
    - i. Estimated removal volume in Board Feet and/or cords, and/or number of trees.

- ii. Harvest area in acres.
- iii. Estimated time when project will be marked.
- iv. Estimated time period when roads, skid trails and landings will be built.

D. Water Resources

- i. Describe any special watercourse/wetland precautions to be taken.
- ii. Include copies of all required permits (Federal, State, Local) such as DEC stream crossing or USACOE wetland permits.
- iii. Describe and identify Best Management Practices that will be employed for the protection of water resources and maintained in good working order as described in the NYCDEC BMP Guidelines.
- iv. For each stream/wetland crossing, indicate:
  - a. Drainage type (stream, spring, seep)
  - b. Duration of flow (perennial, intermittent)
  - c. Existing or proposed crossing, size and type (temporary for permanent bridge, culvert or other)
  - d. Drainage bottom (rock, gravel, mud, soil mixture, other)
  - e. Stream bank type (rock, gravel, mud, soil mixture, other)
  - f. Bank height (feet)
- v. For each riparian buffer area, indicate:
  - a. Buffer type (watercourse, stream side, wetland, spring, seep, lake, pond, other) for each area
  - b. Slope
  - c. Width of buffer
  - d. Initial/residual basal area

E. Access System:

- i. List the estimated length, in feet, of all existing and proposed primary skid trails.
  - a. Estimate the total surface area in roads and landings in square feet and calculate the percentage of road/landing area compared to the harvest area.
- ii. Describe how all existing and proposed primary skid trails must be flagged in the field before the FHP is considered complete. The flagging color will be identified in the FHP.
- iii. Proposed Best Management Practices for stabilizing the access system during the active timber harvest. These BMPs can include but are not limited to corduroy for crossing unstable soils, gravel, geo-textile fabric, water bars and culverts.

- iv. Proposed Best Management Practices for the post-harvest stabilization of the access system. These can include but are not limited to trail grading, water bar and broad based dip installation.
- v. Proposed Best Management Practices for the post-harvest stabilization of the stream crossing approaches. These BMPs can include but are not limited to water bar installation, gravel, geo-textile fabric and corduroy.
- F. FHP Map requirements:
  - i. Property boundaries and harvest area
  - ii. Forest stands in harvest area
  - iii. Logging units within or across stands
  - iv. Water courses (perennial/intermittent streams, lakes/ponds, rivers, springs and seeps)
  - v. Wetlands
  - vi. Stream and wetlands crossings
  - vii. Riparian buffers areas
  - viii. Topography (at least 20 foot contours)
  - ix. Existing and proposed truck roads, skid trails and landings
  - x. Map scale should not be smaller than 1 inch = 330 feet for properties smaller than 300 acres and 1 inch = 660 feet for properties more than 300 acres.
  - xi. USGS quadrangle (7.5 minute series) used with name

**4. The Following is Optional for all FHP's:**

All FHPs may include some or all of the following silvicultural information if provided by the Forester and/or logger:

- A. Prescriptions for individual stands, each stand will be indicated on the FHP map:
  - i. Goals/Objectives
  - ii. Methods used to promote regeneration
  - iii. Riparian buffer area management use
  - iv. Other factors to consider
- B. Stand treatment for each stand
  - i. Type of cut
  - ii. How cut trees are designated
  - iii. Residual AGS basal Area/acre

- iv. If stand is adjacent to property boundary, how boundary is marked.
  - v. Other information such as proposed chemicals treatments, etc.
- C. Stand diagnosis for each stand:
  - i. Forest type/description
  - ii. Acres
  - iii. Timber size
  - iv. Initial basal area/acres
  - v. Soil survey soil type(s)
  - vi. Source of regeneration, factors limiting regeneration, quality of existing regeneration
  - vii. Endangered or threatened species
  - viii. Other factors to note
- 5. All FHPs submitted to WAC will be submitted on a Forest Harvest Plan Form.**
- 6. Amending a FHP: All changes to the FHP after approval by WAC Easement Committee must be approved by the WAC Watershed Forester and Easement Stewardship Specialist prior to the landowner undertaking any action inconsistent with the approved FHP.**

## USEFUL REFERENCES: Forestry Program Rates:

| Management Assistance Program (MAP) |                                                               |              |
|-------------------------------------|---------------------------------------------------------------|--------------|
|                                     | Practice                                                      | Regular Rate |
| Tree Planting                       | Tree Shelters (ea)                                            | \$5.22       |
|                                     | Fencing (ft)                                                  | \$2.61       |
| Timber Stand Improvement (TSI)      | Tree Designation (ac)                                         | \$26.11      |
|                                     | Cull Tree Removal (ac)                                        | \$58.72      |
|                                     | Light Thinning (ac)                                           | \$78.28      |
|                                     | Medium Thinning (ac)                                          | \$117.42     |
|                                     | Heavy Thinning (ac)                                           | \$143.53     |
| Wildlife Improvement                | Wildlife Crop Tree & Fruit tree (per tree)                    | \$26.11      |
|                                     | Wildlife seeding (ac)                                         | \$195.73     |
|                                     | Seep protection & enhancement (ac)                            | \$316.70     |
|                                     | Snag & cavity tree development (per tree)                     | \$31.67      |
|                                     | Grassland (ac)                                                | \$63.35      |
|                                     | Shrubland (ac) (>1")                                          | \$114.00     |
|                                     | Sapling (ac)                                                  | \$506.71     |
| Invasive Plant Control              | Light Invasive Plant Control: 0-30% pre-practice cover (ac)   | \$1,115.39   |
|                                     | Medium Invasive Plant Control: 31-60% pre-practice cover (ac) | \$2,230.77   |
|                                     | Heavy Invasive Plant Control: 61-100% pre-practice cover (ac) | \$3,261.94   |
| Invasive Tree Control               | Invasive Tree Control (per tree)                              | \$42.36      |
| Program Maximum                     | MAP Yearly Max                                                | \$6,523.87   |

| 480a Incentive Programs |                                      |
|-------------------------|--------------------------------------|
| Program                 | Rate                                 |
| Enrollment              | \$537.32 base rate + \$6.57 per acre |
| Update                  | \$358.21 base rate + \$0.62 per acre |

| Erosion Control Component         |              |          |
|-----------------------------------|--------------|----------|
| Practice                          | Regular Rate | TLC Rate |
| Road Layout (ft)                  | \$0.15       | \$0.15   |
| Re-grading (ft)                   | \$0.10       | \$0.12   |
| Relocation (ft)                   | \$0.73       | \$0.76   |
| Post Harvest Stabilization (acre) | \$208.58     | \$312.89 |
| Corduroy (ft)                     | \$42.36      | \$63.55  |
| Water Bars (each)                 | \$40.04      | \$56.05  |
| Broad Based Dips (each)           | \$119.70     | \$167.78 |
| Rolling Dips (each)               | \$79.87      | \$111.82 |
| Geotextile Fabric (ft)            | \$1.30       | \$1.96   |
| WOH Gravel (yard)                 | \$56.65      | \$84.93  |
| Culverts (10-15") (ft)            | \$31.42      | \$47.14  |
| Culverts (18") (ft)               | \$36.57      | \$54.87  |
| Culverts (24") (ft)               | \$49.96      | \$76.14  |
| Culverts (36") (ft)               | \$61.80      | \$92.70  |
| Culverts (48") (ft)               | \$84.80      | \$126.57 |
| Silt Fencing (ft)                 | \$3.00       | \$4.18   |
| Hay Bales (each)                  | \$16.38      | \$32.89  |

| Stream Crossing Component                 |              |            |
|-------------------------------------------|--------------|------------|
| Practice                                  | Regular Rate | TLC Rate   |
| Implementing Plan (per component)         | \$260.74     | \$325.93   |
| Corduroy (ft)                             | \$42.36      | \$63.55    |
| Water Bars (each)                         | \$80.19      | \$112.24   |
| Post-Harvest Stabilization (acre)         | \$130.37     | \$182.52   |
| Portable Bridge Cost Share                | \$1,303.67   | \$1,955.50 |
| Portable Bridge Transportation, Or rental | \$1,466.63   | \$2,607.32 |

| BMP Program Maximums      |            |             |
|---------------------------|------------|-------------|
| Component                 | Rate       | TLC Rate    |
| Road Layout               | \$1,799.29 | \$1,799.29  |
| Erosion Control Component | \$8,995.30 | \$11,353.31 |
| Stream Crossing Component | \$5,397.18 | \$6,811.98  |

| Urban Rural Education Initiative (UREI) |                  |
|-----------------------------------------|------------------|
| Program                                 | Rate             |
| Forestry Field Trips                    | \$4,990.21       |
| Green Connections Partnerships          | up to \$8,075.98 |

## Glossary Of Terms

**480a:** Section 480a of the New York State Real Property Tax Law is open to landowners with >50 acres of contiguous forestland. Enrolling in '480a' requires landowners to abide by timber harvesting schedules in order to receive significant property tax reductions. To learn more about 480a, contact your regional NYS DEC forester.

**Adjacent Parcels:** Any parcels under a common ownership that share boundaries at the time of plan application.

**BMP:** Best Management Practice. A forestry BMP is a tool used to efficiently harvest timber and reduce non-point source pollution. A culvert is an example of a forestry BMP.

**MAP:** The Management Assistance Program for forest landowners, woodland stewards or volunteers in the New York City Watershed with a MyWoodlot profile and/or a forest management plan. The MAP is a program run by WAC that funds the implementation of select plan prescriptions on a competitive basis based on applications.

**New York City Watershed (NYC Watershed):** The eight county upstate New York and western Connecticut mountainous region that serves as catchment area for the reservoir network that supplies 9+ million metropolitan New Yorkers with water. New York counties include: Delaware, Dutchess, Greene, Putnam, Schoharie, Sullivan, Ulster and Westchester.

**NYS DEC:** New York State Department of Environmental Conservation, a state-governed agency. Watershed Foresters with the DEC work closely with WAC to review Forest Management Plans and provide outreach to forestland owners. DEC Region 4 includes Delaware, Greene, Schoharie Counties within the NYC Watershed. DEC Region 3 includes Sullivan, Ulster, Dutchess, Putnam and Westchester Counties within the NYC Watershed.

**NYC DEP:** New York City Department of Environmental Protection. The DEP is one of the primary funding sources for the WAC. Natural resource professionals and foresters help WAC to realize its mission and provide outreach and educational assistance to regional landowners.

**TLC:** Trained Logger Certified. A certification granted to timber harvesters who have completed the appropriate course work by New York State Logger Training Incorporated.

**Trained Logger Certified:** An individual who holds Trained Logger Certification from the New York Logger Training, Inc. (coursework includes chainsaw operation, first aid and CPR, and forest ecology & silviculture).

**WAC:** Watershed Agricultural Council. A 501.c.3 not-for-profit organization with offices in Walton, NY and Patterson Heights, NY. WAC's mission involves working with farmers, forestland owners, and natural resources professionals to reduce non-point source pollution through voluntary incentive programs and to ensure that agriculture and forestry remain viable economic commodities in the New York City Watershed.

**WAC Forestry Program Committee:** A group consisting of Watershed Agricultural Council Directors, philanthropists, natural resources professionals, timber harvesters, foresters, wood products industry executives, government agency partners and other experts. The Committee oversees the WAC Forestry Program.

**WFMP:** Watershed Forest Management Plan. A forest management plan that WAC paid for on a property in the NYC Watershed.

**WFP:** Watershed Forestry Program. An educational, outreach, economic development, and voluntary incentive program that is part of the Watershed Agricultural Council. The WFP receives its funding from the NYC DEP and the USDA Forest Service.

**Watershed Qualified Forester:** A professional forester with a B.S. or associate's degree in forestry who has completed the Becoming a Watershed Qualified Forester workshop, and additional educational courses deemed necessary by Watershed Forestry Program Staff

## **Watershed Forestry Program - Contact Information**

### **West of Hudson Office**

Watershed Agricultural Program  
33195 State Highway 10  
Walton, NY 13856  
Phone (607) 865-7790  
Fax: (607) 865-4932

**WAC Executive Director**, Ryan Naatz

**Forestry Program Manager**, Tom Pavlesich  
tpavlesich@nycwatershed.org

**Watershed Forester**, Andrew Krutz  
akrutz@nycwatershed.org

**Watershed Forester**, Alex Mozes  
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**Research and Evaluation Forester**, Kris Brown  
kbrown@nycwatershed.org

**Outreach Specialist**, Heather Hilson  
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**Executive Assistant and WoH Educator**, Brittany Schenck  
bschenck@nycwatershed.org

### **East of Hudson Office**

Watershed Agricultural Program  
2 Route 164, 1st Floor  
Patterson, NY 12563  
Phone (914) 962-6355

**Watershed Forest Stewardship Educator**, Jessica Alba  
jalba@nycwatershed.org

**East of Hudson Forestry Program Coordinator**, Tyler Van Fleet  
tvanfleet@nycwatershed.org

### **NYS DEC CONTACT INFORMATION**

DEC Region 4 Watershed Forester (607) 652-3624  
DEC Region 3 Watershed Forester (845) 256-3075

## **Related Web Sites**

### **Watershed Agricultural Council**

[www.nycwatershed.org](http://www.nycwatershed.org)

### **MyWoodlot**

[www.mywoodlot.com](http://www.mywoodlot.com)

### **New York City Department of Environmental Protection**

[www.nyc.gov/dep](http://www.nyc.gov/dep)

### **New York State Department of Environmental Conservation**

[www.dec.ny.gov](http://www.dec.ny.gov)

### **USDA Forest Service**

[www.fs.usda.gov/](http://www.fs.usda.gov/)

### **Catskill Forest Association**

[www.catskillforest.org](http://www.catskillforest.org)

### **The Catskill Center for Conservation and Development**

[www.catskillcenter.org](http://www.catskillcenter.org)

### **Frost Valley YMCA**

[www.frostvalley.org](http://www.frostvalley.org)

### **Empire State Forest Products Association**

[www.esfpa.org](http://www.esfpa.org)

### **Cornell Cooperative Extension**

[www.cce.cornell.edu](http://www.cce.cornell.edu)

### **New York Logger Training**

[www.newyorkloggertraining.org](http://www.newyorkloggertraining.org)

### **SUNY College of Environmental Science and Forestry**

[www.esf.edu](http://www.esf.edu)

### **WAC Logger Training**

<https://nycwatershed.org/logger-education/>

### **Watershed Model Forest Program Web Page**

[http://www.nycwatershed.org/for\\_rdintro.html](http://www.nycwatershed.org/for_rdintro.html)

### **US Geological Survey**

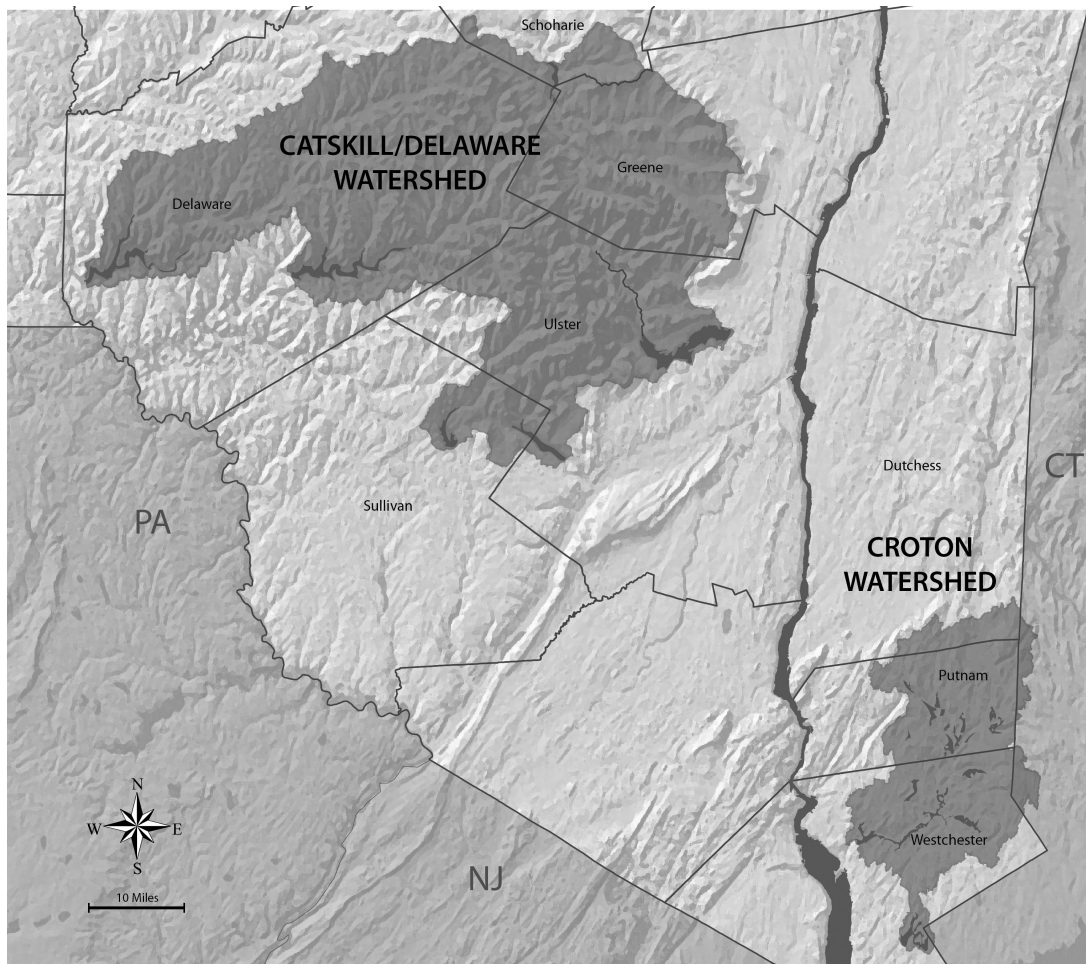
<http://www.usgs.gov/>

### **New York Forest Owners Association**

[www.nyfoa.org](http://www.nyfoa.org)

NYC Watershed Region Maps





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