

**1. APPLICANT INFORMATION:**

I am an:

- Adult group/organization
- School
- Other:

I am a:

- New Applicant (You have never applied for WAC funding before.)
- Repeat Applicant (You have applied for WAC funding before.)
  - I have received funding in the past.
  - I have NOT received funding in the past.

I am applying for Bus Tour option (Choose one option only):

- Option 1: Environmental Center & Reservoir Tour
- Option 2: Trout in the Classroom Trout Release & Reservoir Tour
- Option 3: Trees for Tribs Tree Planting & Reservoir Tour
- Option 4: Adult Professional Development Tour

**Contact Information:**

Your Name:

School/Org Name:

Grade(s) Taught:

Subject(s) Taught:

School/Org Mailing Address:

Email:

Daytime Phone:

Cell Phone:

**2. BUS TOUR OPTION:**

Check your preferred Bus Tour option below and complete all required information for your selected option.

**[X] Option 1: Environmental Center & Reservoir Tour**

Check your preferred Environmental Center destination below. Under each destination we have also listed the name of the NYC-DEP drinking water reservoir that you will visit as part of your tour.

**East of Hudson**

**West of Hudson**

- Clearpool Education Center & Model Forest  
+ Cross River Reservoir
- ~~Taconic Outdoor Education Center~~  
~~+ Cross River Reservoir~~
- Fresh Air Fund's Sharpe Reservation  
+ Cross River Reservoir
- Teatown Lake Reservation  
+ New Croton Reservoir

- Frost Valley YMCA & Model Forest  
+ Neversink Reservoir

**[ ] Option 2: Trout in the Classroom Trout Release & Reservoir Tour**

Applicants coordinate with Trout in the Classroom NY & WAC to schedule a visit to Ward Pound Ridge Reservation in April or May. Tours include a guided visit to the Cross River Dam & Reservoir. Check that you meet all tour requirements below and check if you plan to visit Ward Pound Ridge Reservation or a different trout release location that you have arranged.

- Total group size, including adults, is no more than 112 individuals (the capacity of 2 coach buses).
- The tour will be scheduled during April or May.
- Tour to Ward Pound Ridge Reservation and the Cross River Reservoir.

**OR**

- I have arranged a different location:

**[ ] Option 3: Trees for Tribes Tree Planting & Reservoir Tour**

All tours go to Hilltop Hanover Farm and include a guided visit to the Cross River Dam & Reservoir. Check below that you meet all tour requirements:

- Participants are 6<sup>th</sup> grade or higher.
- Total group size, including adults, is no more than 56 individuals (the capacity of 1 coach bus).
- The tour will be scheduled during late April or early May.

**[ ] Option 4: Adult Professional Development Tour**

All tours must visit a NYC-DEP drinking water reservoir. We strongly recommend that adult groups also visit a WAC Model Forest. Check your preferred destinations from the options below.

**East of Hudson**

**West of Hudson**

- Clearpool Education Center & Model Forest  
+ Cross River Reservoir
- Other:  
\_\_\_\_\_

- Frost Valley YMCA & Model Forest  
+ Neversink Reservoir
- Agroforestry Resource Center & Siuslaw Model Forest  
+ Ashokan Reservoir OR Schoharie Reservoir
- Other:  
\_\_\_\_\_

### 3. BUS TOUR DETAILS:

Proposed tour date(s) or best estimate:

March 31-April 1, 2020

Estimated number of participants:

Students:  Grade Level(s):  Adult educators/chaperones:

**OR**

Adult Professional Development tour participants:

Will your trip have an overnight component?  Yes - How many nights:   
 No

### 4. PROFESSIONAL INFORMATION:

**IMPORTANT:** Please adhere to the **maximum word limits** for all questions below. Exceeding a word limit will result in a loss of points during the application review process. In MS Word, use the “Word Count” tool under the “Review” tab to check your work.

How did you learn about the Watershed Forestry Bus Tour Program and do you have any suggestions for how/where we should promote the program? **(100 words max.)**

I learned about the Watershed Forestry Bus Tour Program from the staff at Frost Valley, specifically Bob Eddings and Brett Tillman. I planned a trip to FV this spring and they suggested considering this grant for next year’s trip. I suggest promoting the program as much as possible to public schools in New York City. There is high interest in overnight trips but the cost of bus transportation is often a barrier. All principals receive a regular communication called Principal’s Weekly. That might be one efficient way to reach many schools that might be interested in the program.

Have you ever attended the Watershed Forestry Institute for Teachers\*?

Yes, what year(s):   
 No (a colleague made me aware of it for the first time this year. I couldn’t apply this summer but I’m interested in the future.)

*\*The [Watershed Forestry Institute for Teachers](#) is a 5-day summer professional development program from the Watershed Agricultural Council that immerses 4<sup>th</sup> -12<sup>th</sup> grade teachers in a hands-on study of the New York City watershed, forestry and water quality sciences.*

Please share any environmental professional development and/or teaching resources you have engaged with recently that you would recommend. This helps us stay informed and allows us to share your recommendations with other educators. **(200 words max.)**

The best professional development that I can recommend is the Education for Sustainability program at Shelburne Farms in Vermont. Last summer I attended its Summer Institute and this year I'm attending its year-long Leadership Academy. The goal of the program is to develop learning experiences through the lens of sustainability, stewardship, and connection to the environment. An important component is finding ways to integrate these experiences across curriculum and building a sustainability mindset into all subject areas.

The American Museum of Natural History also offers a range of free professional development opportunities during the summer and school breaks that my colleagues and I have found very useful. Many of these focus on local environmental topics such as using the Hudson River to study water quality and protection or preserving local biodiversity in the face of deforestation, urbanization, and climate change.

A teaching resource I can recommend is the iNaturalist app. Students take pictures of local plants and animals and contribute to a pool of observational and occurrence data that can be used to analyze local biodiversity. The app also serves as a crowd-sourced species identification system to help students learn about their local organisms.

## **5. PROGRAM DESCRIPTION:**

**IMPORTANT:** Funding priority goes to applications that address **ALL 3** program themes:

**Theme 1: Watershed form and function** (e.g. *What is a watershed, what defines a watershed and how does it function, why do watersheds need protection, etc.*)

**Theme 2: Watershed trees and forests** (e.g. *What are forest ecosystems, how do trees & forests filter and protect water quality [in upstate drinking water watersheds and in downstate suburban/urban environments], what other benefits do trees & forests provide, etc.*)

**Theme 3: New York City water supply system** (e.g. *What are the different parts of the system, history of its construction, how can we conserve water and help care for watersheds, etc.*)

If funded, WAC staff will help you develop a detailed teaching plan for the trip, but you should have some specific ideas about how you will integrate these 3 themes into your teaching before, during, and after the tour. Visit our **Teacher Resources webpage** [www.nycwatershed.org/teacher\\_resources](http://www.nycwatershed.org/teacher_resources) for resources on these topics.

**OVERALL PURPOSE:** Why do you want to go on a Watershed Forestry Bus Tour? Explain how your proposed tour integrates with and enhances your overall unit/curriculum/program. **(250 word max.)**

The Watershed Forestry Bus Tour is a valuable and enduring experience for our Earth Science students. Our curriculum is centered around outdoor and place-based learning experiences and this trip serves as the culmination of our unit on landscapes and water resources. The Tour also provides an opportunity for students to engage directly with a key theme of our curriculum: the interconnection between human activities and Earth's natural resources.

Our students start by studying topography and how the land shapes water resources. They go on to study watershed formation and explore drainage patterns and erosional/depositional features of rivers. The students study how water influences the development of different landscapes and investigate what is happening below ground, as they study soil formation, factors that affect water infiltration, and the protection of ground water. And the students connect their learning to their own lives by considering how NYC supplies its drinking water and handles its wastewater. All of these experiences are crucially enhanced by the Tour. We use local resources and out-of-classroom experiences to give students as much hands-on connection to the topics as we can but it's impossible to see the full extent of our watershed from Brooklyn. The trip to Neversink and Frost Valley allows students to experience with all their senses the land, water, rivers, and forests that ultimately fill their glass of water. This experience conveys a level of understanding and appreciation for our water resources that would be difficult to match in and around our classroom.

**BEFORE THE TOUR:** Describe how you will address the 3 program themes before the proposed tour in order to help prepare your students/participants for significant learning on the trip. **(250 word max.)**

### **Before the Tour**

#### **THEME 1: Watershed form and function**

Students will compare topographic maps of New York State with USGS watershed maps to build their understanding of how our watershed has formed. They will compare and contrast the New York watershed with other major watersheds in the country. They will also study how watershed drainage patterns connect to the underlying bedrock structures.

#### **THEME 2: Watershed trees and forests**

Students will learn about the role of trees in our watershed through a variety of activities. They will study the relationship between landscape vegetation and rates of erosion. They will conduct soil permeability and porosity lab investigations to understand the dynamics of infiltration. Students will also visit urban forests in Prospect Park and Inwood Hill Park to learn about ecosystems and the role trees play in our water system. This work will be supported in the classroom by resources including Nature Conservancy videos describing the role of trees in providing clean drinking water.

#### **THEME 3: New York City water supply system**

The kickoff activity for the unit is a student-led discussion of the prompt: *Where does our drinking water come from?* We'll create guiding questions around how water is used, transported, cleaned, recycled, and disposed of. Students will determine initial answers by using resources including the New York Times *Billion Gallons a Day* video and the NYT's cartoon series *How New York Gets Its Water*. As students learn about the entire watershed system, we will continue to refer back to this anchor question so students develop an appreciation of how all parts of the system work together to provide clean water to our community.

DURING THE TOUR: Describe the specific activities, programs, or experiences you would like your students/participants to have during the tour that will address the 3 program themes.

- For *Environmental Center* trips, include the Reservoir visit and specific courses that interest you.
- For *Trout in the Classroom* or *Trees for Tribs* trips, include the Reservoir visit and the specific components of

the trip. Some of the programming is standard and some you have the opportunity to customize. **See our [Bus Tour Guides](http://www.nycwatershed.org/bustours) at [www.nycwatershed.org/bustours](http://www.nycwatershed.org/bustours) for more details about the specific programming on these trips (250 word max.)**

### During the Tour

#### **THEME 1: Watershed form and function**

At Frost Valley, students will participate in the “Watersheds and Wilderness” and “Freshwater Ecology” courses. “Watersheds” will give students a direct opportunity to explore the watershed they have studied in class. In “Freshwater Ecology”, students will learn about factors that affect the health of freshwater environments. In both courses, students will have a chance to see firsthand how the choices we make affect watershed ecosystems.

#### **THEME 2: Watershed trees and forests**

A central part of our visit to Frost Valley will be a half-day hike into its Model Forest. Students will also be introduced to the “Forest Ecology” course in the context of the hike, which will make it impactful and relevant. The exploration of the Model Forest will demonstrate the key role that forests play in filtering water and show the impact forest management can have on water quality. In the “Forest Ecology” coursework students will learn about the components of the forest ecosystem and the impact of human activities. This experience seeing, touching, and walking among trees will help students appreciate the need for forests.

#### **THEME 3: New York City water supply system**

The Tour starts with students visiting the Neversink Reservoir. The chance to see 35 billion gallons of water will give students a lasting sense of the scale of the water supply system that feeds New York City. The “Watersheds and Wilderness” course also explicitly draws connections between the origins of drinking water in the Catskills and its ultimate consumption in NYC. This will include discussion of water quality monitoring and purification techniques that students have studied in class.

AFTER THE TOUR: Describe how you will address the 3 program themes after the proposed tour in order to help your students/participants synthesize and apply their learning from the tour. **(250 word max.)**

### After the Tour

#### **THEME 1: Watershed form and function**

After the Tour, students will apply their learning about watershed creation and function toward a major unit project modeling the lifecycle of a river. Using diagrams and written explanations, students will describe how watersheds and rivers develop and evolve over time. Students will also synthesize their learning on stewardship with a class debate on responsibility for protecting watersheds. Students will discuss the best measures for ensuring the health of watersheds and what roles different stakeholders should play.

#### **THEME 2: Watershed trees and forests**

Back in Brooklyn, students will return to Prospect Park and compare management strategies used in the Model Forest with what they observe. Students will also review the Forest Management Framework for New York City published last year by the Natural Areas Conservancy and NYC Parks and watch video excerpts of the City Council hearing when it was presented. A student-led class discussion will analyze the goals of the Framework. Students will consider what role they can personally play in preserving and protecting our forests.

#### **THEME 3: New York City water supply system**

After visiting the water supply systems at its origin, students will explore parts of the system in New York City. They will tour the Old Croton Aqueduct Trail in the Bronx and visit the High Bridge and the Highbridge Water Tower. Seeing the scale of the system at the distribution end will help support their overall understanding of the requirements to bring clean drinking water to NYC. Students will also consider their personal responsibility for the water supply system by completing the Dept. of Environmental Protection's water use calculator.

**REPEAT PARTICIPANTS ONLY:** If you have received bus tour funding before, please reflect on your past experiences and explain how you will adapt your teaching plan AND trip logistics to improve future experiences and outcomes. **(200 word max.)**

N/A

**6. BUDGET INFORMATION:**

You may apply for up to \$3,000 for your proposed tour. See our **Bus Tour Guides** online for cost information for each **Bus Tour Option**: [www.nycwatershed.org/bustours](http://www.nycwatershed.org/bustours). Email or call Tyler Van Fleet at [education@nycwatershed.org](mailto:education@nycwatershed.org) or (914) 962-6355 x21 for budgeting assistance.

As a matching grant program, all requested funds must be matched dollar-for-dollar with in-kind time (e.g. the value of the time that teachers, staff and volunteers devote to the tour, including preparation and follow-up), in-kind goods (e.g. donated meals, supplies, etc.) or cash (from any source, including school budget, PTA funds, student fees, etc.). You will be asked to demonstrate your matching funds. Many participants are able to meet the matching funds requirement primarily with their in-kind time, which is calculated using the following hourly rates:

- **\$48/hour for teachers and staff** (may vary depending on your school)
- **\$28/hour for volunteers like parent chaperones** (New York State official rate)

In the Budget Table below, estimate the costs associated with your bus tour, including the value of the cash, time and materials/supplies your team will contribute. Your total matching funds (bottom of column B) must be equal to or greater than the total grant funds being requested (bottom of column A).

**Grant Funds may ONLY be used for:**

- Transportation costs (bus rental)
- Program/Facilitator/Lodging fees
- Meals during the tour

**Your Matching Funds may come from:**

- Teacher/Staff/Volunteer hours
- Materials/Supplies

You may also contribute to the cost of:

- Transportation (bus rental)
- Program/Facilitator/Lodging fees
- Meals during the tour

<b>BUDGET TABLE (Estimates are OK!)</b>			
	<b>A</b>	<b>B</b>	<b>A + B</b>
<b>Expense Category</b>	<b>Grant Funds</b> (how you will spend your requested grant funds)	<b>Matching Funds</b> (how you will contribute to the cost of the tour)	<b>CATEGORY TOTAL</b> (add across rows)
Transportation	<b>\$2,700</b>	\$	<b>\$2,700</b>
Program/Facilitator/Lodging Fees	<b>\$141</b>	<b>\$6,909</b>	<b>\$7,050</b>
Meals	\$	<b>included w/ program</b>	\$
Teacher/Staff/Volunteer Hours	N/A	<b>\$2,880</b>	<b>\$2,880</b>
Materials/Supplies	N/A	\$	\$
Other – Please Explain Nursing Services	<b>\$100</b>	\$	<b>\$100</b>
<b>BUDGET TOTAL (add down columns)</b>	<b>\$2,941</b> <i>(Total amount being requested in application)</i>	<b>\$9,789</b> <i>(Total value of your matching funds. <b>Must equal or exceed Column A total to the left</b>)</i>	<b>\$12,730</b> <i>(Total value of your bus tour)</i>

Are you a Title I School?       Yes  
    No  
    N/A

Explain why you need funding from the Watershed Forestry Bus Tour Program. **(50 words max.)**

Our school has long been Title I but with some recent demographic changes we no longer qualify. Our student body remains economically diverse, with some students unable to cover the costs of this trip. Grant funding ensures that this trip is available to all students regardless of ability to pay.

Show your calculations for each estimated Grant Funds cost in column A of your budget table above. **(100 word max.)**

(Ex. 1 bus at \$1,200/bus = \$1,200; 55 lunches at \$8.50\*55 students = \$467.50, etc.)

1 55-passenger coach bus at \$2,700/bus = \$2,700  
Frost Valley program fees at \$141/student for one student = \$141  
Frost Valley nursing services at \$50/day\*2 days = \$100  
  
The grant funding would cover transportation, which is a substantial part of the cost. The grant would also cover the required nursing services at Frost Valley as well as a full scholarship for one student.

Explain the source(s) of your matching funds in column B of your budget table above. **(100 word max.)**

(Ex. Program fees for 50 students and 5 chaperones for 1 full-day at Clearpool Education Center is \$25/student\*50= \$1250, \$10/adults\*5=\$50, Facilitator fees \$240\*3=\$720, paid by school and student fees; In-kind time: 20 teacher hours at \$48/hour = \$960; 8 volunteer hours at \$28/hour = \$224, etc.)

Frost Valley's combined program, lodging, and meals fee for two days/one night is \$141/person\*49 people = \$6,909. This will be paid by student fees, student fundraising, and our PTA.  
  
In-kind time: 5 teachers will each donate 12 hours overnight time (6pm-6am) at \$48/hr. 5\*12\*\$48 = \$2,880

Who will be responsible for the budget and reporting requirements of the grant program? If this is not the same person as the applicant, please explain why it is a different person and how you will work together to manage the budget and reporting.

I, Water Drop McGee, will be responsible for the budget and reporting requirements of the grant program.

## 7. PROGRAM REQUIREMENTS

Please check the boxes next to each statement below to indicate that you understand and agree to the program requirements.

**[X] I UNDERSTAND THAT I AM REQUIRED TO OBTAIN ADMINISTRATIVE SUPPORT FOR PARTICIPATION IN THE BUS TOUR PROGRAM. I AGREE TO PRINT THE ATTACHED ADMINISTRATOR SUPPORT FORM, DISCUSS THE PROGRAM WITH MY ADMINISTRATOR, OBTAIN THEIR SIGNATURE ON THE FORM AND SUBMIT THE FORM WITH THIS APPLICATION.**

**[X] I UNDERSTAND THAT, IF FUNDED, I WILL BE REQUIRED TO COMPLETE A W-9 TAX IDENTIFICATION NUMBER FORM AND OBTAIN PROOF OF ADEQUATE INSURANCE FOR THE BUS TOUR.** (Note: The proof of insurance and W-9 form DO NOT need to be submitted with this application and public school participants are not required to submit proof of insurance.)

**[X] I UNDERSTAND THAT, IF FUNDED, I WILL BE REQUIRED TO MEET WITH A BUS TOUR PROGRAM STAFF PERSON EITHER AT MY SCHOOL/OFFICE OR VIA PHONE TO REVIEW PROGRAM DETAILS AND SUBMIT THE REQUIRED PAPERWORK.**

Please return the completed application by e-mail, fax or mail by **Friday, August 9, 2019 at 5PM.**

**Tyler Van Fleet  
Watershed Educator  
Watershed Agricultural Council  
1275 Hanover St.  
Yorktown Heights, NY 10598  
Email: [education@nycwatershed.org](mailto:education@nycwatershed.org)  
Phone: (914) 962-6355 x21  
Fax: (914) 962-5436**

Accepted applicants will be notified of their application status by **Friday, September 20, 2019.**

The Watershed Forestry Bus Tour Program is a program of the Watershed Agricultural Council



with support from the following:





## Administrative Support Form *Watershed Forestry Bus Tour Program*

Dear Administrator,

We are excited that a teacher in your school/organization is applying for a *Watershed Forestry Bus Tour Grant* from the Watershed Agricultural Council!

Our grants help fund field trips to New York City's world-famous Watershed, which supplies clean, safe drinking water to over half the population of New York State. Our field trips are a powerful way for students to investigate how forest ecosystems clean and protect water quality and learn how they can help care for their environment. To learn more, visit [www.nycwatershed.org/bustours](http://www.nycwatershed.org/bustours).

If your school/organization is awarded a grant, the applying teacher will be expected to:

1. Meet with Bus Tour Program staff either at your school/organization or via phone to review program details. Administrators are encouraged to attend!
2. Work with Bus Tour Program staff to integrate watershed forestry themes into their existing curriculum.
3. Complete a W-9 tax identification number form, submit proof of one-to-one matching funds (100% of which may be in-kind contributions), and, if you're a non-public school participant, provide proof of adequate insurance.
4. Complete pre- and post- tour surveys, submit photos and student work examples.

We encourage you to read through the application your teacher is submitting.

**This form, signed by you, must be submitted by your teacher as part of their application.**

Questions may be directed to Tyler Van Fleet, Watershed Educator, at [education@nycwatershed.org](mailto:education@nycwatershed.org) or (914) 962-6355 x21. Thank you!

Additional Comments (Optional):

Thank you for this opportunity. I would like to learn more about your other program offerings.

Print Name: River Flowsby \_\_\_\_\_

Title: \_\_\_ Principal, Budding Stewards School \_\_\_\_\_

Signature: \_\_\_ *River Flowsby* \_\_\_\_\_ Date: \_\_\_ xx/xx/xxx \_\_\_\_\_