

# Volunteer Monitors Visible Trash Survey Handbook

*Alice Ferguson Foundation  
Trash Free Potomac Watershed Initiative*



[fergusonfoundation.org](http://fergusonfoundation.org)



## **Alice Ferguson Foundation**

### ***Trash Free Potomac Watershed Initiative***

A program of the Alice Ferguson Foundation to eradicate trash  
from the Potomac River Watershed



Layout & Design: Doris Sharp

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Alice Ferguson Foundation

2001 Bryan Point Road  
Accokeek, Maryland 20607  
Phone 301.292.5665  
Fax: 301.292.1070

Email: [trash@fergusonfoundation.org](mailto:trash@fergusonfoundation.org)  
Website: [fergusonfoundation.org](http://fergusonfoundation.org)



Dear Volunteer,

We invite you to join the “Trash Team” at the Alice Ferguson Foundation as a Visible Trash Survey Volunteer Monitor. The Potomac River is used for recreation and as a major water source for people in the Washington, DC, metropolitan area. Four-hundred years ago, the river was clean, clear and trash-free. As human population has increased, water pollution has become a major issue. Our Potomac River is polluted with trash. We believe the river can be trash-free and restored to its original beauty and health.

In 2005, the Trash Free Potomac Watershed Initiative was formed to address the trash problem in the Potomac River Watershed. It is a partnership of more than 300 nonprofits, local, state and federal agencies, and over 12,000 volunteers.

The Trash Free Potomac Watershed Initiative is a regional partnership in the Potomac River Watershed, which includes parts of West Virginia, Virginia, Maryland, Pennsylvania, and the entire District of Columbia. We must address the trash issue from a region-wide perspective to solve the problem. Trash flows as the river goes—from the headwaters in West Virginia, down the Potomac River, into the Chesapeake Bay and, ultimately, the Atlantic Ocean.

The Visible Trash Survey is an important tool for monitoring the sources and composition of land-based trash in our watershed. Analyzing the trash data collected through this program provides information in directing efforts and resources towards trash and litter reduction.

It is our sincere hope that your involvement as a Visible Trash Survey volunteer fosters a heightened sense of ownership and stewardship that will last a lifetime. We thank you for your time, dedication, and partnership as we work together for a cleaner, healthier Potomac River.

Sincerely,

*Staff of the Alice Ferguson Foundation*





The Alice Ferguson Foundation is an environmental and agricultural education 501(c)3 public charity that operates Hard Bargain Farm Environmental Center. Hard Bargain Farm is a spectacular 330-acre historic working farm that provides hands-on outdoor experiences for children. The Farm is our most important educational tool, as well as a natural resource asset to the local community, the Mount Vernon viewshed, and the Potomac River. The Farm is located just across the Potomac River from Mount Vernon and 10 miles south of Washington, DC. **Alice Ferguson Foundation's mission** is "to provide experiences that encourage connections between people, the natural environment, farming, and the cultural heritage of the Potomac River Watershed, leading to personal environmental responsibility."

**The goals of Alice Ferguson Foundation programs are:** (1) provide hands-on educational experiences in the natural environment and agricultural practices for the greater metropolitan Washington, DC region's school-age children; (2) protect and preserve the rural character and historic legacy of the Foundation's Hard Bargain Farm; and (3) secure a trash-free Potomac watershed. AFF programs and activities include:

- **Hard Bargain Farm Environmental Center environmental and agricultural education programs** serve over 6000 children each year from Maryland, Virginia, and the District of Columbia with one and two-day activities at the Farm.
- **Summer Teacher Institutes and Workshops** train 120—160 Chesapeake Bay watershed teachers each year.
- **Bridging the Watershed: AFF's offsite education program conducted in partnership with the National Park Service** serves over 3,000 high school students each year from 70 high schools in 14 underserved schools systems, and trains hundreds of teachers and dozens of park rangers in national parks throughout the Potomac Watershed (DC, MD, VA, PA, WV).
- **Trash Free Potomac Watershed Initiative and Potomac River Watershed Cleanup.** The Initiative addresses the watershed's trash problem from an innovative watershed-wide approach that will benefit the entire region. Since 1989 the Potomac River Watershed Cleanup has engaged more than 150,000 volunteers, collaborated with more than 500 community partners and prevented more than 8 million pounds of trash from entering the Potomac River.





## ***Acknowledgments***

### ***Trash Free Potomac Watershed Initiative***

### ***Visible Trash Survey***

The Visible Trash Survey is a component of the Alice Ferguson Foundation's Trash Free Potomac Watershed Initiative. Many thanks go to the numerous environmental experts who donated their time and gave important input into developing the Visible Trash Survey. We also thank our corporate, federal and foundation partners. We are very grateful to the following for their work and efforts to design and develop this survey: Lisa Watts, Jackie Cornet, and Dan Jackson of LMI; Steven R. Stein and Kristin Ferguson of R.W. Beck; John Galli and Phong Trieu of the Metropolitan Washington Council of Governments; and Rich Eskin of the Maryland Department of the Environment.

### **Foundation and Federal Supporters**

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NOAA's Marine Debris Program in the Office of Response and Restoration  
U.S. Environmental Protection Agency, Region III, Office of Water  
Prince Charitable Trusts  
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**Altria**



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# **ALICE FERGUSON FOUNDATION**

## ***Trash Free Potomac Watershed Initiative***

### ***Executive Summary 2008***

The trash debris that plagues the Potomac Watershed has negative effects in many areas of life in the region. The Alice Ferguson Foundation's (AFF) more than twenty years of trash cleanups have made a contribution to improving our waterways - but they are not the solution! AFF's network of cleanup partners and long-term visibility in the region make it an ideal organization and catalyst for driving the Trash Free Potomac Initiative.

The Trash Free Potomac Watershed Initiative, formed in 2005, seeks to address the trash problem from a watershed-wide approach to benefit the entire region. AFF's objectives are to challenge regional leaders to work collaboratively; to bring together key stakeholders to research and explore alternative, innovative, cost effective solutions that will have long-term impact; and to improve general public education and awareness that can shift individual behaviors. The following details the key components and objectives of the project:

#### ***I. Potomac Watershed Trash Treaty***

On the eve of the 17th Annual Potomac River Watershed Cleanup in 2005, AFF brokered the first ever Potomac Watershed Trash Treaty among key political leaders in the Washington, DC metropolitan area. The Potomac Watershed Trash Treaty commits the signers to:

- Support and implement regional strategies aimed at reducing trash and increasing recycling;
- Increase education and awareness of the trash issue throughout the Potomac Watershed; and
- Reconvene annually to discuss and evaluate measures and actions addressing trash reduction.

#### ***II. Trash Free Potomac Watershed Initiative*** ***A Comprehensive Framework of Community Partnerships***

AFF has established an effective infrastructure of key leaders and decision makers on federal, state, local, and non-governmental levels to take responsibility and collaborate on action-oriented problem solving, including an Advisory Council of watershed leaders. We partner with over 300 nonprofits, citizen groups, and local, state and federal agencies and governments.

#### ***III. Trash Summit -- A Signature Event that Commits Elected Officials and Provides Outreach***

The annual summit provides a venue for key stakeholders to collaborate on strategies to eliminate trash from our waterways, communities, streets and public lands – including regional public policy, Best Management Practices, business actions, and public education.

#### ***IV. Annual Potomac River Watershed Cleanup -- A Community Catalyst for Progress***

AFF coordinates the Annual Potomac River Watershed Cleanup for more than thirty years, which involves hundreds of Cleanup sites and thousands of volunteers collecting trash.

*V. Potomac River (Watershed) Outreach and Awareness Campaign for Trash (PROACT)  
A Waterside-Wide Campaign in Partnership with the Alice Ferguson Foundation, Jurisdictions,  
Nonprofits, Citizens, and Government Agencies*

Through the work of roundtable committees, a comprehensive regional public education campaign is being created that addresses citizen involvement in the addressing our trash problem with solutions.

*VI. Litter Enforcement Week (LEW)*

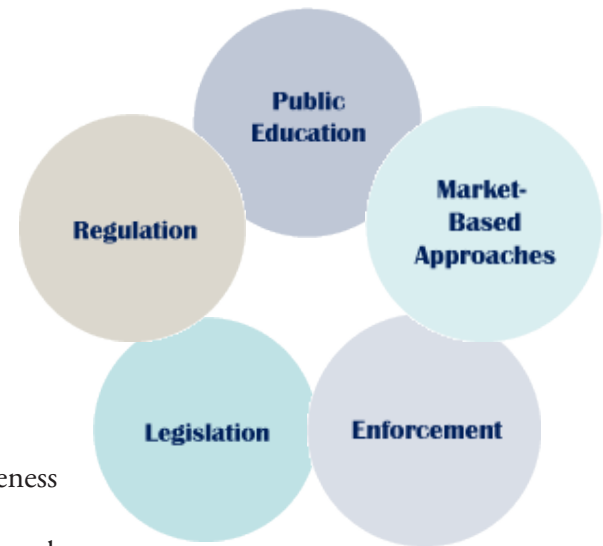
Regional jurisdictional law officers and the National Park Police implement a Law Enforcement Week prior to the spring Potomac River Watershed Cleanup to raise awareness about the litter problem. Law officers issued tickets and fines to offenders.





# Framework and Planning for a Trash Free Potomac

The Trash Free Potomac Watershed Initiative's organizing framework is based on five core components—public education, market based approaches, enforcement, legislation, and regulation.



## *(1) Public Education—Potomac River Outreach and Awareness Campaign on Trash (PROACT)*

- Implement a large-scale, region-wide public education and awareness program that inspires citizens and businesses to voluntarily take action and engage in litter control, recycling, and bulk trash disposal.
- Use unified messaging and pooled resources from public and private sectors to reach a broad audience and achieve message saturation.
- Target messaging and materials toward particular audiences (i.e. youth, waste hauling companies, food service establishments, or multi-cultural communities).

### ***What is Our Goal?***

**To eradicate land-based and water-based litter found in the Potomac River Watershed.**

Improperly disposed trash litters our land, streets, sidewalks, and water bodies. Some of the most common visible trash items impairing our watershed are:

- Plastic bottles
- Convenience store and food packaging
- Styrofoam
- Plastic bags
- Yard waste
- Home appliances and domestic products
- Tires and car batteries
- Industrial drums and barrels
- Construction debris

Trash enters the Potomac River in many ways throughout the watershed:

- Storm drains
- Illegal dumping
- Public litter
- Roadways/streets/from automobiles
- Truck transportation overflow (unsecured loads)
- Wind
- Trash collection overflow

## *(2) Market-Based Approaches*

- Implement market-based approaches to give residents and businesses incentives for proper trash disposal and recycling that are financially profitable to the community or private sector.
- Eliminate existing regional barriers that hamper reuse or recycling of construction materials. New systems will capture current “waste” products and convert them into usable materials with sufficient economic value to support the systems.

## *(3) Enforcement of Existing Trash Laws*

- Actively enforce existing local, county, and state laws for littering, illegal dumping, wind-blown trash coming from vehicles, improper storage of waste, and containment and disposal of trash.
- Design enforcement programs with strong support from senior officials, adequate resources, consistent communication to the community, and flexibility and accountability for different physical, philosophical, and political challenges.

## *(4) Legislation of Trash with Innovative Policies at Multiple Levels of Governance*

- Maximize existing laws and establish “trash free” policies and goals at the local, state, and federal levels.



- Establish buy-back programs, beverage container deposit systems, and refunds or incentives for disposal of bulk items (i.e. tires or large appliances); reduce tipping fees at landfills and transfer stations; and remove bulk trash for free to reduce illegal dumping.
- Establish and leverage correlation between CO<sub>2</sub> emissions and waste to support trash reduction.
- Budget for implementation of structural technologies at targeted storm water drainage “hot spots” to capture and prevent trash flow into our waterways.
- Ensure implementation of trash reduction Best Management Practices (BMPs) such as targeted and frequent street sweeping, installation of extra public litter cans, development of bulk trash collection programs, and securing of loads for vehicles transporting waste.

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### *(5) Regulation of Trash with Tools from the Federal Clean Water Act*

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- Regulate trash in our waterways under the provisions of the Clean Water Act by creating a measurable, tangible limit to the amount of trash allowed in a body of water.
- Quantify the amount of trash that is allowable and establish limits for the release of trash to waterways, called a Total Maximum Daily Loading (TMDL). The Clean Water Act provides for the establishment of a TMDL for trash, once the US EPA has officially determined that a waterway is impaired by trash. Legally enforceable TMDLs for trash have an enormous potential for establishing implementation plans with quantitative measures, driving new technology, providing a solid legal foundation for regulation, and offering a basis for results-driven planning and budgeting.



# Potomac River Watershed Profile

*The Watershed:* The drainage area covers **14,670 sq. miles:**

- Maryland – 3,818 sq. miles
- Virginia – 5,723 sq. miles
- West Virginia – 3,490 sq. miles
- Pennsylvania – 1,570 sq. miles
- DC – 69 sq. miles

*Landforms:* The basin lies in five geological provinces:

- Appalachian Plateau
- Ridge and Valley
- Blue Ridge
- Piedmont Plateau
- Coastal Plain

*Length:* 383 miles from the Fairfax Stone (West Virginia) to Point Lookout, Maryland

*Major Tributaries:*

- Shenandoah River
- South Branch River
- Monocacy River
- Savage River
- Cacapon River
- Anacostia River
- Occoquan Rivers
- Antietam Creek
- Conococheague Creek

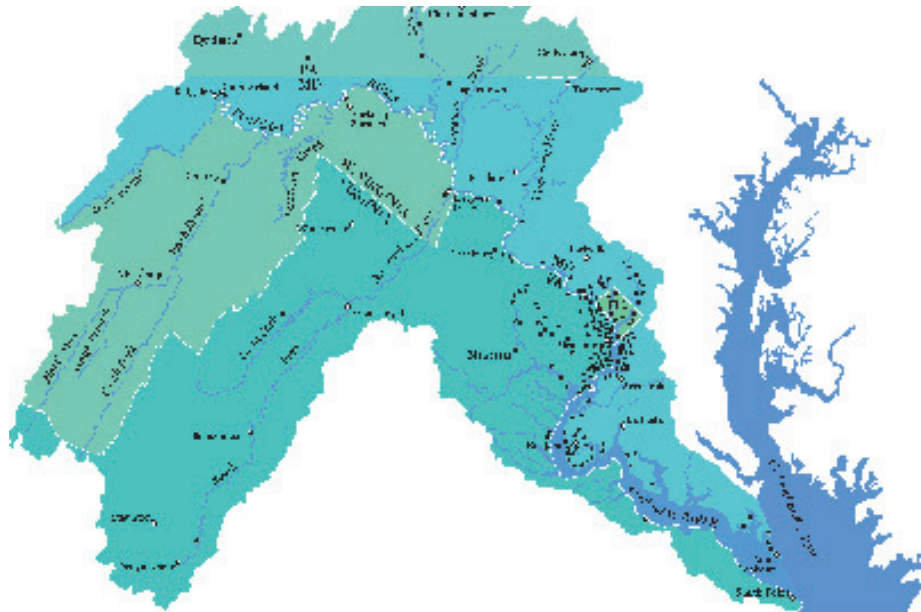
*Population:* Approximately 4.6 million, of which 3.7 million live in the Washington, DC, metropolitan area.

*Major Cities:*

- Washington, DC
- Cumberland, MD
- Frederick, MD
- Hagerstown, MD
- Rockville, MD
- Chambersburg, PA
- Gettysburg, PA
- Alexandria, VA
- Front Royal, VA
- Harrisonburg, VA
- Winchester, VA
- Harpers Ferry, WV
- Martinsburg, WV

*Water Flow:*

Average flow is approximately 7 billion gallons per day. The largest flow measured at Washington, DC, in March 1936 was 275 billion gallons per day. The lowest flow, in September 1966, was 388 million gallons per day before water supply withdrawals.





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# I. Trash Free Potomac Watershed Initiative

## *Why Do We Need a Region-Wide Visible Trash Survey (VTS)?*

Trash is a problem in the Potomac River watershed. The purpose of the VTS is to generate accurate and reliable statistical data relating to litter and trash levels in the Potomac River Watershed using volunteer-based survey teams that have been trained in the use of the VTS. The survey will help identify the sources and composition of trash in our watershed. Results from the VTS will generate valuable baseline data and statistics from ongoing monitoring that will allow identification of trash hotspots, sources, and composition. This information will help prioritize future anti-litter measures and to facilitate proactive, rather than reactive, management of litter as a pollutant.

The VTS has been designed to form a framework for consistent, coordinated, and accurate measurement of litter. As such, an important goal of the VTS is to consolidate all of the highly localized, litter-related data into a single, standardized and documented format.

**Litter:**  
**Solid waste in the  
wrong place**

**Trash:**  
**Trash, as used  
in water quality  
control, is  
synonymous with  
litter**

## *Goals of the Survey*

The overall goal of the VTS is to provide data that will assist in the elimination of litter pollution in the most efficient and cost-effective manner possible by identifying the composition and quantities of litter and trash found on the sites surveyed.

Goals for the Visible Trash Survey are to:

- Implement a standardized litter survey methodology.
- Objectively assess litter pollution levels within the Potomac River Watershed.

- Provide statistics relating to:

The extent and severity of litter pollution within the Watershed.

The composition and amount of that litter and its most likely source.

Changes in the cleanliness levels of surveyed areas from year to year.

The location of trash hotspots.

The distribution of litter across the entire region.

- Facilitate the prioritization of resources.
- Provide a metric for measuring the success or failure of anti-litter efforts.
- Be fully documented and as transparent as possible.
- Facilitate the distribution of survey results.

**VTS Data uses**  
**Education**  
**Problem Identification**  
**Local Decisions**

## *What is the Volunteer Commitment?*

AFF is recruiting volunteers from across the Potomac River Watershed to help with the program. Two commitments are needed:

1. Attendance at a four-hour Saturday training session, and
2. A commitment to sample one Potomac River Watershed Cleanup site biannually (once in spring and once in fall).

### ***What is the Watershed Connection?***

Trash goes as the river flows. With every rain event, trash is carried from the upper Potomac to the lower Potomac to the Chesapeake Bay and ultimately into the Atlantic Ocean. The Potomac River Watershed consists of areas of Maryland, Virginia, Pennsylvania and the entire District of Columbia. Litter and trash can enter waterways through point sources, such as illegal dumping, and nonpoint sources, such as stormwater. Trash mainly enters our waterways through:

- Stormwater flowing into storm drains and drainage systems
- Illegal dumping
- Windblown litter

### ***What is Being Surveyed?***

Trash on land, roads and water banks is being surveyed using a detailed trash composition sheet.

### ***How Will the Results be Made Available?***

AFF staff will provide results of all surveys on its website, via email to interested volunteers and officials. All efforts will be made to have these results available in a timely manner (usually within six months of survey completion).

### **What Are the Steps Needed to Complete a Visible Trash Survey?**

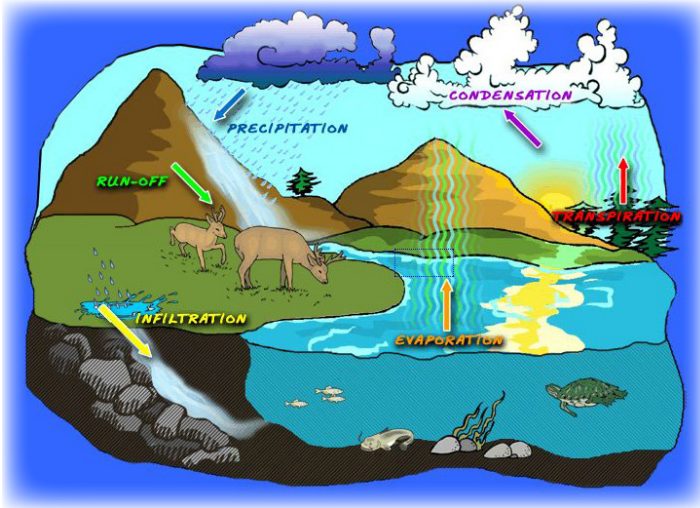
1. Attend a training session in spring and fall.
2. Choose a Potomac River Watershed Cleanup site to monitor with AFF staff.
3. Pick up your supplies and sign a volunteer form.
4. Get permission if needed to survey from any private property.
5. Complete as much of the form as possible before surveying.
6. Survey the same site before the Cleanup in spring and in fall.
7. Photocopy and mail your data sheets and site forms to AFF.



## II. Watershed Basics

### *What is a Watershed?*

A watershed is an area of land that captures water in any form, such as rain or snow, and drains it to a particular creek, stream, river, or lake. All land is part of the watershed for some creek, stream, river, or lake. Its boundary can be identified by locating the highest points of lands around the waterway.



*Representation of a watershed*

don't stop at a state border, and neither does a watershed. If you know in what watershed you live, you know your ecological address. All creeks, rivers, and lakes in the Potomac River Watershed flow into the Potomac River and eventually into the Chesapeake Bay and the Atlantic Ocean.

### *Watersheds and Subwatersheds*

Within the Potomac River Watershed there are many smaller watersheds, called subwatersheds. So in addition to living in the Potomac River Watershed, you also live in, for example, the watershed of the Anacostia River, Rock Creek, or the Shenandoah River. These smaller watersheds are all part of larger watersheds and together form the 14,670-square-mile watershed of the Potomac River.

### *The Trash Pollution Connection*

Trash enters the Potomac River from a variety of sources, but primarily through storm drains, windblown litter, and illegal dumping. Every time it rains, the land-based trash is swept along with the stormwater down a storm drain or drainage ditches, and into a creek, river, or stream that flows into the Potomac River. Trash that enters the Potomac River headwaters is flushed downriver ultimately to the Chesapeake Bay. Trash has no boundaries, so trash from West Virginia, for example, can end up on the shores of the Potomac River near the National Mall in Washington, DC.

Watersheds can be very large and others are quite small. The Potomac River watershed is an area of 14,670 square miles and includes parts of four states (Maryland, West Virginia, Virginia, and Pennsylvania) and the entire District of Columbia. The Potomac River Watershed is part of the larger Chesapeake Bay Watershed. The Chesapeake Bay Watershed is an area of 64,000 square miles and includes parts of six states (Maryland, West Virginia, Virginia, Delaware, Pennsylvania, and New York) and the entire District of Columbia.

### *Watersheds Are More than Just an Area of Land!*

Watersheds give us a very useful way of looking at the area where we live. Streams, creeks, rivers and lakes

**Your watershed is  
your ecological  
address.**

*Trash is polluting our river. Pollution is broadly divided into two classes according to its source. Point source pollution comes from a clearly identifiable point, such as illegal dumping. Nonpoint source pollution comes from surface water runoff that goes through storm drains or other drainage systems. It originates from a broad area and the exact source can be difficult to identify. Examples of nonpoint sources include runoff from city streets, parking lots, sidewalks, storm sewers, lawns, golf courses, and building sites.*



# III. Safety and Landowner Permission

## Safety Guidelines

1. Always survey in teams of two.
2. Take a cell phone with you.
3. Avoid wildlife and poisonous plants.
4. Don't survey in inclement weather.
5. Stay out of the path of traffic if you are surveying a road.
6. If surveying a stream, river, or lake bank, do not walk too closely to the bank and take an accidental swim.
7. ALWAYS OBTAIN PERMISSION TO CROSS OR SURVEY ON PRIVATE PROPERTY. Be sure the landowners know exactly when and where you will survey.
8. Notify park rangers or local officials if you are surveying on federal, state, or local public parks or lands. They may be interested in receiving the data collected.

**Follow the  
safety guidelines!**

## Land Owner Permission and Right of Entry Form (Example)

**Landowner Letter** - You will be given a copy of the following letter if your site is on private land. Give the landowner the letter for his/her records.

*Dear Property Owner:*

*Your help is needed for an important study on the condition of the Potomac River watershed.*

*In order to provide information on water quality, the Alice Ferguson Foundation is sending trained volunteers to survey trash on public and private land.*

*Your permission is requested to allow volunteers from AFF's Visible Trash Survey program to visit your property to survey trash and litter. Each volunteer will be appropriately identified and will observe proper protocols. The survey procedure should require less than one hour.*

*After the survey results have been analyzed by AFF professionals, the information will be made available to local governments and landowners on the internet.*

*If you have any questions, feel free to contact us at 301.292.5665. Thank you in advance for your cooperation.*

*Sincerely,  
Alice Ferguson Foundation*

***Landowner Release Form*** – Ask the landowner to sign the release form below. Your signature is also required. Keep the signed release and return to AFF with the other survey documents.

## RIGHT OF ENTRY AND RELEASE OF LIABILITY AGREEMENT

The Visible Trash Survey is a region-wide program to monitor the condition of rivers and streams in the Potomac River watershed. The Alice Ferguson Foundation has recruited volunteers to survey trash on the land. The survey will require approximately one hour per site. This agreement is intended to allow AFF volunteers access to private property and to release and hold harmless the private property owner from liability arising from that access.

Property owners: \_\_\_\_\_  
\_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

AFF volunteers: \_\_\_\_\_  
\_\_\_\_\_

Permission is hereby given for the volunteer(s) listed above to enter private property for the purposes of accomplishing the survey on stated date. In addition, those volunteer(s) named above do hereby release, hold harmless and forever discharge the private property owner named above from any and all liability for any damage, injury, or loss which may be sustained as a result of their entry onto the private lands described in this agreement.

For the landowner:

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
(Signature of volunteer)

For AFF:

By: \_\_\_\_\_ Dated: \_\_\_\_\_  
(Signature of landowner)

## IV. Equipment and Supplies

Each volunteer team of VTS surveyors will be provided with the following equipment and supplies at the training session:

- Instructions
- Clipboard
- Black pen to complete the Item Counts form
- VTS Volunteer Release form
- VTS Site Description form
- VTS Item Counts form
- Volunteer Evaluation form
- Landowner Letter and Landowner Release Form (only for those surveying on private property)
- Stamped self-addressed envelope
- Clip board and 200-foot length string provided upon request

**AFF provides the  
equipment and  
supplies!**

### *Photographs*

Photographs of the site are very helpful. If you have a digital camera, please take pictures of your site and email them to [trash@fergusonfoundation.org](mailto:trash@fergusonfoundation.org).





# V. Visible Trash Survey Volunteer Release Form

As a participant, or a parent or guardian of a participant, in the Visible Trash Survey sponsored by the Alice Ferguson Foundation and other participating sponsors, I, the undersigned, hereby release, discharge, and agree to hold harmless the Alice Ferguson Foundation, all other sponsors, their agents, employees, officers, and successors from liability, claims or actions which I, my heirs, executors, administrators, or assigns may have or claim against any of them arising from any personal injuries or other claims connected therewith, whether known or unknown, or injuries to other persons or to property caused by or arising out of any actions I might take relating to my activities while participating in the Visible Trash Survey.

As a participant in this Survey, I give permission to the Alice Ferguson Foundation to use all photos or other images taken in the course of this survey, including images of myself, in any media outlet, Web, or print materials.

All volunteers must sign and return this form before conducting a Survey. Please FAX this release to the Alice Ferguson Foundation at 301.292.1070 before you conduct the Survey (no cover sheet needed).

---

Name (please print)

Signature

Date

---

Address

---

If under age 18 -- Signature of parent or guardian



**Sign and fax the release  
form to AFF before your  
survey at 301.292.1070**

Alice Ferguson Foundation  
2001 Bryan Point Road  
Accokeek, MD 20607

# VI. Visible Trash from Survey Data

## *Site Description Form*

The Site Description Form is intended to provide key information about the location and a basic description of each survey site. Every effort to complete the entire form accurately is important. The site description form provides key data to identify the source of trash surveyed at your survey site.

Most of the Site Description Form can be filled out prior to surveying, but you will need to bring the Site Description Form with you while surveying to complete certain sections. AFF staff will review and explain each section of the Site Description Form during the volunteer training session and is available by phone if needed to assist you.



### ***A. Site Number***

- Survey sites will be selected in coordination with AFF staff. Each survey site will also be a site for the Potomac River Watershed Cleanup.
- Because we will be surveying the same sight over a one-year period, locational sections of the Site Description Form will stay the same.

### ***B. Site Information***

- To locate the subwatershed, go to the U. S. Environmental Protection Agency (US EPA) website (<http://cfpub.epa.gov/rf/locate/index.cfm>) and type in the search field “Surf Your Watershed.”
- Complete the sections for the nearest storm drain or outfall, subwatershed, and nearest body of water.

### ***C. Site Latitude, Longitude and Address***

- Complete the street address section.
- AFF is to incorporate locational data (latitude and longitude) into a database for mapping purposes, it is essential that these readings be accurate.
- You may use Google Earth ([earth.google.com](http://earth.google.com)), ADC Map ([www.adcmap.com](http://www.adcmap.com)), or a GPS locator to find the latitude and longitude coordinates
- Please provide a written description of the starting location of your site. Provide as much detail as possible. You can use physical reference points like a bridge or sign marker. If possible, photograph the starting point of your survey site.

#### **Site Latitude and Longitude**

**Google Earth is a free online tool to find the latitude and longitude of your survey site.**



**[www.earth.google](http://www.earth.google)**

#### ***D. Locale Type***

- The Visible Trash Survey is designed to survey land-based trash/litter. Please identify one:
  - a. Waterbody bank (stream, river, or creek)
  - b. Land
  - c. Roadway
- Circle the appropriate roadway locale.

#### ***E. Date Site Was Last Cleaned***

- Enter date site was last cleaned.
- Enter current survey date and time information.

#### ***F. Weather***

Rain and storm events are responsible for moving trash into and down the Potomac River. AFF will use the weather information and storm drain outfalls to look at the flow of trash through our waterways. This information will be coordinated with the landuse to identify sources of the trash and litter surveyed.

- Please record the weather for:
  - o the day of the survey
  - o the day before, and
  - o the past week.
- The most reliable website for weather is [www.weather.gov](http://www.weather.gov). The site gives detailed weather and precipitation for areas by zipcode for present and past weather.

#### ***G. Ground Cover***

- Note all ground covers that apply to your survey site (the 200' x 20' site).
- Estimate percentages of each type of cover.
- Percentages should total 100%.

#### ***H. Pictures***

- Please photograph your site and trash.
- Send digital photos to [trash@fergusonfoundation.org](mailto:trash@fergusonfoundation.org). Hard copy photos can be sent to the Alice Ferguson Foundation, 2001 Bryan Point Road, Accokeek, MD 20607

Questions? Call 301.292.5665.





## Visible Trash Survey Data Form –Site Description Form

Please complete each of the following sections for your site.

### A. Site Number

1. AFF provided site number: \_\_\_\_\_
2. Is this survey site a past AFF Potomac River Cleanup Watershed Site?
3. Is this survey site a past AWS Earth Day Cleanup Site?

### B. Site Information

AFF-provided site name: \_\_\_\_\_

Length: 200 feet

Width: 20 feet (to your right)

Subwatershed: \_\_\_\_\_

Nearest body of water: \_\_\_\_\_

Nearest outfall (storm drain etc.) \_\_\_\_\_

### C. Latitude & Longitude & Address

*(We need the ability to find the site and retrace your steps for future trash surveys.)*

Name of Place: \_\_\_\_\_

Street Address: \_\_\_\_\_

City/Municipality: \_\_\_\_\_

State: \_\_\_\_\_ Zipcode: \_\_\_\_\_

County: \_\_\_\_\_

Please enter the coordinates for your location as degrees, minutes and seconds (DD.MM.SS) if available to you:

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Method used to identify the latitude and longitude (circle one of the choices below):

GPS      Google Earth      Other (please specify): \_\_\_\_\_

Please explain how to locate your exact site's starting location in reference to the coordinates or the address you provided, on the lines below, or indicate "exact" if the coordinates mark the starting spot exactly.

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**D. Locale Type**

Circle **ONLY One** (a, b, or c) and describe.

a. Water body bank (stream, river or creek; include water body name)

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b. Land (if your site is located more than 200 feet from a water body)

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c. Roadway (Please complete the Roadway Locale Questionnaire form below)

Roadway Locale Questionnaire – Please Circle the most appropriate type if surveying a roadway

<b>Roadway Type</b>	<b>Acronym</b>	<b>Questionnaire</b>
Rural Freeways and Toll Roads	RFT	Interstate highways, non-interstate toll roads and limited access highways located outside of urban areas.
Other State Rural Highways	OSR	U.S. and state highways located outside of urban areas without limited access.
Rural Local Roads	RLR	Public roads outside of an urban area that are locally maintained (e.g. city, county)
Urban Freeways and Toll Roads	UFT	Interstate highways, non-interstate toll roads and limited access highways located within an urban area.
Vacant, Industrial or Un-maintained Street Frontages	VIU	The edge of an urban street in front of a vacant lot, industrial site or with a building and or landscaping which is not maintained.
Commercial Street Frontage	COM	The edge of an urban street in front of a business such as stores, restaurants and shopping centers.
Public Facility Street Frontage	PUB	The edge of an urban street in front a government or quasi-public use building such as a courthouse, park, school or public library.
Residential Street Frontage	RES	The edge of an urban street in front of homes on neighborhood streets.
Waterways & Beach Fronts	WBF	Public roads located either inside or outside of an urban area adjacent to waterway pond, river or beach/ocean front.
Parks & Recreational Areas	PAR	Public roads located either inside or outside of an urban area located within a park or recreational area.

*E. Date Site Was Last Cleaned*

*Survey Date*

Survey Date \_\_\_\_\_

Start Time \_\_\_\_\_

Finish Time \_\_\_\_\_

*F. Weather*

**TODAY'S WEATHER**

Please record the weather conditions for **TODAY (date of survey)**:

Temperature: \_\_\_\_\_ Fahrenheit

\_\_\_\_\_ Full Sun      \_\_\_\_\_ Partially Cloudy      \_\_\_\_\_ Completely Overcast  
(estimate percent cloud cover)

**Precipitation:** Y / N      Form: \_\_\_\_\_

Amount: Light (< 0.5"), Moderate (0.5" - 1.5"), Heavy (> 1.5") \_\_\_\_\_

**YESTERDAY'S WEATHER**

Please record the weather conditions for YESTERDAY:

Temperature: \_\_\_\_\_ Fahrenheit

\_\_\_\_\_ Full Sun      \_\_\_\_\_ Partially Cloudy      \_\_\_\_\_ Completely Overcast  
(estimate percent cloud cover)

Precipitation: Y / N      Form: \_\_\_\_\_

Amount: Light (< 0.5"), Moderate (0.5" - 1.5"), Heavy (> 1.5") \_\_\_\_\_

**EARLIER WEATHER**

In the space below, please describe any weather conditions over the past week that are notable/unusual or which would have affected the distribution of trash in your site area.

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### ***G. Ground Cover***

Please choose the ground cover types that apply to your site from the list below, and estimate percentages of each for the area you are surveying (Please make sure the total is 100%).

\_\_\_\_ Sidewalk      \_\_\_\_ Grass      \_\_\_\_ Loose Soil      \_\_\_\_ Shrub/Brush  
\_\_\_\_ Wooded      \_\_\_\_ Large Rocks      \_\_\_\_ Gravel      \_\_\_\_ Sand

### ***H. Pictures***

Please email your photos, along with identifying site name and number, to [trash@fergusonfoundation.org](mailto:trash@fergusonfoundation.org). Please call 301.292.5665 with any questions.



## VII. The VTS Item Count Sheet

### *Trash Categories*

- The Trash Item Count sheet is broken down into 55 separate categories. Although this may seem like a lot, this very specific data will help to identify the sources of trash on our lands and in our waters. We suggest you read through the sheet several times before surveying your site so you are familiar with it before going in the field.
- Survey only count items larger than one inch.
- AFF staff will enter your findings into our database. The combined data will give us the information needed to find solutions to our trash problem.

**Specific item  
identification helps  
get to the source of  
the problem!**

### *Brand Names*

We ask you to identify brand names. Businesses whose products end up in our waters can help us solve the problem, but we need the specific brand name data to engage them in solutions.

### *Cigarette Butts*

- There is a separate step for counting cigarette butts.
- Return to your starting point and estimate an area of 10 feet by 3 feet.
- Within this 10' x 3' area, count the total number of cigarette butts, and record it.
- It is important that you start the cigarette butt count at the spot where your survey began.

### *Field Quality Control/Quality Assurance Checks*

- Volunteers conduct the survey in teams of two.
- One volunteer records the trash identified by the other volunteer.
- After the survey is completed, the volunteers switch places and perform an item count for 6 items on the Trash Items Count sheet to insure quality control.
- Accuracy of the total should be within 5% and accuracy of any individual item should be within 10%.

**Volunteers conduct  
the survey in teams of  
two!**





# Alice Ferguson Foundation Visible Trash Survey

## Trash Item Tally

Volunteer Name:

Date

Site Name:

### Visible Trash Survey - Site Survey Counts (Please do not use a pencil to complete this form)

Site Number (provided by AFF)			Tally Marks	Total	Verifica tion	Brand Names
Items						(at least six items)
Packaging	1	Plastic bags (grocery or ziplock)				
	2	Fast Food food packaging				
Convenience	3	Candy, gum, snack wrappers				
	4	Cigarette packs, matches, cigars				
Food /	5	Drink Carriers, ( 6-packrings)				
	6	Bottle Caps				
Tobacco	7	Drinking Straws				
Alcoholic	8	Beer Bottles				
Beverage	9	Beer Cans				
Containers	10	Wine & Liquor Bottles				
Other	11	Soft Drink Bottles - plastic				
Beverage	12	Soft Drink Cans				
Containers	13	Water Bottles - Plastic				
	14	Sports/Energy Drink Bottles - Plastic				
Beverage	15	Sports/Energy Drink Cans				
Containers	16	"Capri Sun," or "Juicy Juice" pouches				
	17	Other Types of Drink Bottles				
Miscellaneous - Items where you can identify the material but not the product.						
	21	Miscellaneous Styrofoam				
Miscellaneous	22	Corrugated Cardboard				
Paper	23	Miscellaneous Paper				
	24	Miscellaneous Plastic				
Miscellaneous	25	Miscellaneous metal and foil				
	26	Miscellaneous glass, ceramic				
	27	Miscellaneous fabric				
Miscellaneous	28	Miscellaneous wood				
	29	Yard waste (clippings, leaves)				
Household	31	Toiletries				
	32	Medicine and medicine packaging				
Household	33	Home food packaging ("tv dinners")				
	34	Tupperware or "Gladware"				
	35	Fabric, including clothing				
	36	Toys/sports including balls				
	37	Syringes				
Hazardous	38	Oil Containers -- Car, Boat, etc.				
	39	Detergent Bottles				
	40	Personal electronic accessories-cds				
Other	41	Carpeting				
	42	Appliances (please list)				
Print Media	43	Newspapers, Magazines, Books				
	44	Advertising, signs, cards				
	45	Small car parts				
Vehicle debris	46	Large car parts				
	47	Tires (whole tires)				
Construction	48	Small items: tools, nails, wood pieces				
material	49	Large items: wood pilings, etc.				
	50	Other items (please list)				
		Cigarette Butts in a 3' by 10' area at start of your survey				







## VIII. Survey Instructions

### *Pre-Survey*

1. Your Volunteer Release form should be completed and returned to AFF before you survey (fax to 301.292.1070).
2. If surveying on private land, obtain permission to be on the land where you will perform your survey and get a signed Landowner Release Form.
3. Please read all the materials and familiarize yourself with the categories you will be counting in the Trash Item Counts form.
4. Review the Site Description Form and complete as much of the form as possible before surveying, including the weather section.

**Fax your Volunteer  
Release form to AFF  
before you survey!  
301.292.1070**

### *Survey*

1. Go to your site.
2. Use the string provided or other measuring tool to measure a 200-foot linear length, and mark the start and end of the length with a rock or other item available.
3. The width to survey is 20 feet to your right. Also mark the 20-foot line at both ends of the 200 foot length.
4. Fill out the remaining sections in the Site Description Form.
5. With the Trash Item Counts sheet in hand, start the tally. We recommend that one of you call out the items while the other classifies and makes “hash” marks in the “Tally Marks” column.
6. Where will you look to count trash items?
  - If along a waterbody bank, take a visual count of trash items, on one side of the waterbody bank
  - If along a road, take a visual count of trash items on one side of the road.
  - If on land, such as a park or a field, pick a start point and count only what you see 20 feet to your right.
7. Count what you see. Do not disturb vegetation or trash.
8. Do not count very small items. Count items larger than 1” square. Note that there is a separate step (see next step) for counting cigarette butts.
9. Lastly, there is a separate step for counting cigarette butts. Return to your starting point and estimate an area of 10 feet by 3 feet. Within this 10’ x 3’ area, please count the total number of cigarette butts, and record it. It is important that you start the cigarette butt count at the spot where your survey began.
10. When you are done, total the tally marks and record your totals for each category in the “TOTAL” column.
11. For quality control, the person who did not record the counts should spot-check by selecting 6 categories and re-counting the items. Please record your initials, and if the total is different, write your total next to your initials.
12. Take photographs of your site if you have a digital camera.

### *Post Survey*

1. Complete remaining sections in the Site Description Form.
2. Photocopy your forms and keep a copy for your records.
3. Complete a VTS Evaluation Form.
4. Fax your forms to 301.292.1070, including Evaluation Form and Landowner Release Form (if applicable) to the Alice Ferguson Foundation.



# IX. Volunteer Evaluation

## *Visible Trash Survey Volunteer Evaluation Form*

We appreciate your time and effort for a Trashfree Potomac Watershed! Please complete the following questions to help us improve the Visible Trash Survey for future volunteers.

1) Was the training helpful? \_\_\_\_\_

2) Were the instructions easy to understand? (circle one)

Very easy

Moderately easy

Somewhat difficult

Very difficult

3) What was the most difficult aspect in conducting this survey?

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**Your feedback helps  
us improve the survey!**

4) Would you conduct a survey in the future? (circle one) Yes No

5) Did you understand why you were conducting this survey? (circle one) Yes No

If no, please explain: \_\_\_\_\_

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6) What other suggestions and comments do you have?

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7) Did you have any problems with filling out the forms? If so, what parts were difficult?

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8) How long did the survey take?

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**Thank you for your time  
and effort!**

## **X. Returning the Visible Trash Survey Forms**

Now that you have successfully completed your survey, it's time to return your valuable data to AFF.

Please fax over the necessary completed forms to 301.292.1070. Be sure to keep a copy on file to act as reference point for completing your next survey of the same site. You may keep the clipboard and string to be used for future Visible Trash Surveys.

Return the four completed forms: Site Description, Evaluation Form, Trash Item Counts and Landowner Release Form (if applicable) within a week of the survey completion to Alice Ferguson Foundation, 2001 Bryan Point Rd., Accokeek, MD 20607

## **XI. Contacting AFF**

AFF staff is happy to help you with any questions or concerns. Your successful completion of the Visible Trash Survey is important to us. Please contact us at 301.292.5665 with any questions.

**Alice Ferguson Foundation**  
**2001 Bryan Road, Accokeek, MD 20607**

**Tel. 301.292.5665**  
**Fax: 301.292.1070**





# Glossary

<b>Condensation</b>	The process of water vapor in the air turning into liquid water. Water drops on the outside of a cold glass of water are condensed water. Condensation is the opposite process of evaporation.
<b>Evaporation</b>	The process of liquid water becoming water vapor, including vaporization from water surfaces, land surfaces, and snow fields, but not from leaf surfaces.
<b>Infiltration</b>	Flow of water from the land surface into the subsurface.
<b>Land Use</b>	Activities that take place on the land, such as construction, farming, or tree clearing.
<b>Litter</b>	Solid waste in the wrong place. This includes manufactured and non-manufactured items such as tree trimmings/yard waste that have been transported to another area. It excludes liquids and naturally occurring litter such as leaves, branches, field crops, fruits, nuts, and animal droppings.
<b>Non-Point Source Pollution</b>	Pollution that occurs when rainfall, snow melt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters.
<b>Point Source Pollution</b>	Pollution that comes from a clearly identifiable point such as illegal dump sites.
<b>Precipitation</b>	Condensed water vapor that falls to or forms on the surface as rain, snow, hail, sleet, dew, and frost.
<b>Runoff</b>	That part of the precipitation, snow melt, or irrigation water that appears in uncontrolled surface streams, rivers, drains, or sewers. Runoff may be classified according to speed of appearance after rainfall or melting snow (direct or base runoff) or according to source (surface runoff, storm interflow, or groundwater runoff).
<b>Stewardship</b>	Responsibility for managing property or resources; the individual's responsibility to manage his/her life and property with proper regard for the rights of others.
<b>Storm Drain</b>	A drain used for conveying rainwater, subsurface water, cooling water, or other similar discharges, but not sewage or industrial waste, to a point of disposal.
<b>Transpiration</b>	Process by which water that is absorbed by plants, usually through the roots, is evaporated into the atmosphere from the plant surface, such as leaf pores.
<b>Trash</b>	Trash, as used in water quality control, is synonymous with litter, debris, refuse, and rubbish.
<b>Tributary</b>	A smaller river or stream that flows into a larger river or stream. Usually, a number of smaller tributaries merge to form a river.
<b>Urban Runoff</b>	Stormwater from city streets and adjacent domestic or commercial properties that may carry pollutants of various kinds into the sewer systems and/or receiving waters.
<b>Watershed</b>	An area of land that captures water in any form, such as rain, snow, and drains it to a particular creek, stream, river, or lake. All land is part of the watershed for some creek, stream, river, or lake. Its boundary can be identified by locating the highest points of land around the waterway.

# *References and Further Reading*

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USEPA. 1997. *Volunteer Stream Monitoring: A Methods Manual*. EPA 941-B-97-003. Office of Water, Washington, DC.

# *Notes*

# *Notes*



# *Notes*



2001 Bryan Point Road  
Accokeek, MD 20607  
Tel. 301.292.5665

*[fergusonfoundation.org](http://fergusonfoundation.org)*