



FRANK RODGERS, DIRECTOR OF CACAPON INSTITUTE AND 9 YEAR ISA CERTIFIED ARBORIST WITH >15 YEARS EXPERIENCE IN WATERSHED FORESTRY BEGINNING IN BALTIMORE WHERE I WORKED ON THE NATIONS 1<sup>ST</sup> URBAN TREE CANOPY STUDY.

CACAPON INSTITUTE HAS BEEN PROTECTING RIVERS AND WATERSHEDS SINCE 1985. WE BEGAN AS A RIVER RESEARCH NGO FOCUSED ON THE CACAPON AND APPALACHIAN RIVERS – PRIMARILY THE POTOMAC HIGHLANDS. OVER TIME WE EXPANDED OUR REACH TO THE BROADER POTOMAC BASIN AND CHESAPEAKE BAY. CI HAS BEEN ENGAGED WITH THE WV POTOMAC TRIBUTARY TEAM SINCE ITS START. IN 2005 WE OPENED THE POTOMAC HIGHLANDS WATERSHED SCHOOL, AN ONLINE EDUCATION RESOURCE WITH LESSONS AND ACTIVITIES FOR ELEMENTARY, MIDDLE AND HIGH SCHOOL STUDENTS. IT IS CURRENTLY USED BY TEACHERS ACROSS THE BAY REGION. IT IS PART OF REQUIRED MEANINGFUL WATERSHED EDUCATION IN PRINCE WILLIAM AND FREDERICK COUNTIES, VA, AND IS USED BY MORE THAN 10,000 STUDENTS ANNUALLY.



PWP was formed through a USDA Forest Service Initiative that funded 15 large-scale projects nationwide; each project focused on restoring their respective watersheds through partnerships.

USDA Forest Service continues to be the primary sponsor of the Potomac Watershed Partnership.

### Current PWP Steering Committee



CACAPON INSTITUTE HAS BEEN ENGAGED WITH THE PWP SINCE 2006. PWP, AS YOU ALL KNOW IS A COLLABORATIVE OF FEDERAL, STATE, AND LOCAL ORGANIZATIONS DEDICATED TO PROTECTING THE LANDS AND WATERS OF THE POTOMAC BASIN. THE POTOMAC WATERSHED PARTNERSHIP WAS ESTABLISHED IN 1999 AS PART OF A NATIONAL LARGE-SCALE WATERSHED RESTORATION INITIATIVE OF THE USDA FOREST LAUNCHED IN 2000.

THE PWP IS LEAD BY USDA FOREST SERVICE, STATE FORESTERS, AND SEVERAL NGO'S WITH BASIN-WIDE INTERESTS. FROM 2000 THROUGH 2009 PWP WAS COORDINATED BY THE POTOMAC CONSERVANCY. CACAPON INSTITUTE – CI- BECAME THE COORDINATING ORGANIZATION IN 2010

**Potomac Watershed Partnership**  
A Large-scale Restoration and Stewardship Project for the Chesapeake Bay

The Chesapeake Bay is the largest and most productive of the Mid-Atlantic Region and the Potomac River is the largest tributary to the Chesapeake Bay. Since 1982, the "Nation's River" has been the focus of a national effort to restore the health of the Bay. The Potomac River is a vital link in the chain of life that sustains the Bay. The Potomac River is a source of food, water, and recreation for the people of the region. The Potomac River is a source of life for the people of the region.

**OUR GOALS**

- ✓ Improve water quality and reduce impacts to fisheries, drinking water supplies, and river-based recreation.
- ✓ Restore critical riparian forests and related habitats lost to urban sprawl.
- ✓ Increase production of sustainable, non-toxic, and non-polluting products.
- ✓ Restore the health and integrity of the Potomac River.

**PROJECT COMPONENTS**

1. **Watershed Assessment:** Assess the health and integrity of the Potomac River.
2. **Watershed Assessment:** Assess the health and integrity of the Potomac River.
3. **Watershed Assessment:** Assess the health and integrity of the Potomac River.
4. **Watershed Assessment:** Assess the health and integrity of the Potomac River.

## Established 1999

**Potomac Watershed Partnership**

**FOR MORE INFORMATION**

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IN ITS EARLY YEARS THE PWP WAS DIRECTLY INVOLVED IN RESTORATION PROJECTS - PRIMARILY IN THE SHENANDOAH VALLEY AND NORTH-CENTRAL SUBWATERSHEDS. AFTER 2004 THE NATIONAL LARGE-SCALE WATERSHED INITIATIVE HAD RUN ITS COURSE AND FEDERAL FUNDING SPECIFICALLY FOR THE LARGE-SCALE INITIATIVES REDUCED ON THE FEDERAL LEVEL. DUE TO STRONG SUPPORT FROM THE U.S. FOREST SERVICE OFFICE AT THE BAY PROGRAM – SPECIFICALLY SALLY CLAGGETT (AND EARLIER AL TODD) THE PWP REMAINED A VIABLE COLLABORATION

BUT, BEGINNING IN 2004, AS FUNDING FOR LARGE-SCALE RESTORATION CONSTRICTED, THE PWP NEEDED TO FIND A NEW ROLE.

**INFORMATION  
EXCHANGE**  
**June 2006**



THIS IS A PHOTO OF THE ORIGINAL “INFORMATION EXCHANGE” (THEN CALLED RETREAT) IN 2006. SEVERAL MEMBERS ARE STILL ACTIVE TODAY. THIS MEETING WAS THE BEGINNING OF THE CONVERSATION ABOUT HOW PWP WILL MOVE FORWARD NOW THAT THE LARGE-SCALE FUNDING IS GONE.

## USDA Forest Service Large-Scale Watershed Restoration Projects October 2000



- ≈ Blue Mountains
- ≈ Bitterroot Watershed
- ≈ Chattooga River Watershed
- ≈ Conasauga River Watershed
- ≈ Lost Rivers Learning Site
- ≈ Lower Mississippi
- ≈ New York City Watershed
- ≈ Pacific Coast Watershed
- ≈ Potomac Watershed Partnership
- ≈ Rio Penasco
- ≈ Saint Joe Ecosystem
- ≈ Upper Kootenai
- ≈ Upper South Platte
- ≈ Upper Pit River
- ≈ Upper Sevier River
- ≈ White River

A MAP OF THE ORIGINAL 16 LARGE-SCALE WATERSHED RESTORATION PROJECTS. FROM THESE, MOST DISAPPEARED AFTER THE INITIAL FEDERAL FUNDING RAN ITS COURSE. SALLY, DO YOU KNOW IF ANY OF THEM ARE STILL ACTIVE AS PWP IS?

## Why is PWP Important?

- The Potomac Watershed Partnership is not the only restoration effort in the Potomac, but it is one of the first large-scale collaborative efforts to focus on the region's land use and water quality.



THE POINT OF TODAY'S DISCUSSION IS TO PRESENT WHY PWP IS IMPORTANT. PWP IS, AND REMAINS THE 1<sup>ST</sup> LARGE SCALE, WATERSHED-WIDE, COLLABORATIVE FOCUSING NOT ONLY ON THE WATER OF THE POTOMAC BUT LAND USE AS WELL. WE ALL KNOW THIS BUT IT BEARS REPEATING IN ANY AUDIENCE - NON-POINT SOURCE WATER POLLUTION DOESN'T START IN THE WATER, IT STARTS ON THE LAND.



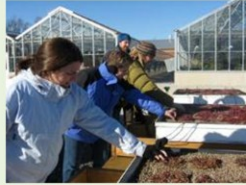
## Why is PWP Important?

- Nearly four centuries of intense land use have threatened the health of the Potomac River watershed.
  - Many of the river's tributaries have been altered and degraded.
  - Acid mine drainage has polluted its headwaters, while farming has overloaded the waterway with sediments and nutrients.
  - Rapidly expanding urban populations and urban sprawl have created a host of problems, from urban storm water runoff and altered streams to fragmentation of the forest and destruction of critical fish and wildlife habitat.



FOUR CENTURIES OF INTENSE LAND USE HAS DETERIORATED THE HEALTH OF THE POTOMAC AND THE BAY. IN 2010 CACAPON INSTITUTE'S STREAM SCHOLARS, A SUMMER PROGRAM FOR YOUTH, VISITED GEORGE WASHINGTON'S BIRTHPLACE ON THE POTOMAC. THE PARK RANGER TOLD THE STUDENTS THAT IN HIS YOUTH THE DOCK WAS 18' OF CLEAR WATER. WHEN GEORGE RETURNED AT THE TIME OF HIS FATHERS DEATH IT WAS LESS THAN 12'. TODAY THE AREA IS A MUD FLAT. THE POTOMAC CONTINUES TO FACE THE CHALLENGES OF INTENSE LAND USE INCLUDING AGRICULTURAL USES AND URBAN SPRAWL WITH THE ACCOMPANYING NUTRIENT LOADING AND STORMWATER RUNOFF POLLUTION.

## Partnership Goals (in short)



Stewardship &  
Land Protection

Create more Livable  
Communities

Increase & Spread  
Knowledge



Sustain & expand  
Partnerships






PWP'S GOALS, SUMMED UP, ARE TO SPREAD KNOWLEDGE, STEWARD THE LAND, CREATE LIVABLE COMMUNITIES, AND

MOST IMPORTANT - SUSTAIN AND EXPAND THE PARTNERSHIP AND COLLABORATION TO PROTECT THE LANDS AND WATERS OF THE POTOMAC BASIN.



## Partnership Goal

PWP partners work with private landowners, community organizations, businesses, and governments on efforts to:

-  *Improve water quality*
-  *Enhance forest, wetland and aquatic habitat*
-  *Restore threatened and endangered species*
-  *Reduce erosion*
-  *Conserve open space*



THE FULLY STATED GOAL, SINCE 2009, IS TO WORK WITH PRIVATE LANDOWNERS, COMMUNITY ORGANIZATIONS, BUSINESSES, AND GOVERNMENTS TO

- IMPROVE WATER QUALITY,
- ENHANCE FOREST, WETLAND AND AQUATIC HABITAT,
- RESTORE THREATENED AND ENDANGERED SPECIES,
- REDUCE EROSION AND
- CONSERVE OPEN SPACE.

## Increase and spread knowledge through assessment, monitoring, and education

Increase our knowledge and understanding of the Potomac River Watershed, its problems, and the value of our restoration and stewardship actions and communicate this information to and engage the Public.



### 1. INCREASE KNOWLEDGE.

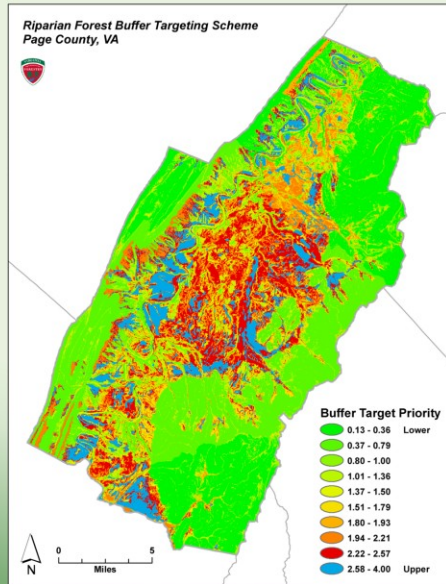
SINCE THE SHIFT FROM DRIVING LARGE SCALE RESTORATION PROJECT DIRECTLY THIS GOAL HAS BECOME EVER MORE IMPORTANT TO PWP. THROUGH THE STEERING COMMITTEE AND INFORMATION EXCHANGES PWP DISSEMINATES THE LATEST SCIENTIFIC RESEARCH AND NEWEST APPROACHES TO BEST MANAGEMENT PRACTICES.

THIS IS A RECENT EXAMPLE. THE NATURE CONSERVANCY CONDUCTED DIRT AND GRAVEL ROAD EXPERIMENTS IN WESTERN MARYLAND. IN 3 HEAVILY FORESTED SMALL SUB-WATERSHEDS THEY FOUND THE DIRT AND GRAVEL ROADS CONTRIBUTED AT LEAST 13-54 TONS OF SEDIMENT DURING A TYPICAL RAIN EVENT.

TNC PRESENTED THIS INFORMATION TO THE PWP. SINCE THEN VA, MD, AND WV HAVE HELD DIRT AND GRAVEL ROAD BMP WORKSHOPS. VA HAS ANOTHER UPCOMING TRAINING SCHEDULED.

## Increase knowledge through assessment.....

Riparian Forest Buffer Targeting Scheme shared in Maryland and Virginia now being done in West Virginia



THE RIPARIAN FOREST BUFFER TARGETING SCHEME IS ANOTHER BMP DRIVER PROMOTED BY THE PWP. AFTER DEVELOPMENT IN VA, AND REPLICATION IN MD, IT IS NOW BEING USED BY WV DOF.

## Accelerate riparian and wetland restoration

Accelerate riparian and wetland restoration

Restore riparian forests, wetlands, and watersheds to improve water quality, fish and wildlife habitat, drinking water supply, and river-based recreation.



PWP IS ALL ABOUT RIPARIAN AND WETLAND RESTORATION. FROM A LEADERSHIP ROLE IN DISSEMINATING THE SCIENTIFIC METHODS OF OUR COLLABORATORS TO SUPPORTING ON-THE-GROUND PLANTINGS BY STATE FORESTERS AND NGOS.

## Accelerate riparian restoration



Backyard Buffers has been replicated in Pennsylvania and West Virginia as

- 🍁 Buffer In A Box
- 🍁 Buffer In A Bag



BYB IS ANOTHER PWP INITIATIVE THAT HAS GROWN. BYB NOW COVERS 17 COUNTIES IN MD AND HAS BEEN REPLICATED IN PA AND WV.



## Enhance forest stewardship and reduce wildfire risk

Increase the health of critical watersheds through forest stewardship and protect communities from the threat of wildfire.



ENHANCING FOREST STEWARDSHIP HAS NOT BEEN AS MUCH OF A PRIORITY FOR PWP SINCE

FORESTRY FOR THE BAY WAS ESTABLISHED. HOWEVER, PWP DOES CONTINUE TO SERVE AS A CLEARING HOUSE FOR IDEAS AND DISCUSSIONS. PWP HAS PRESENTED INFORMATION ON THE IMPACTS CLIMATE CHANGE IS EXPECTED TO HAVE ON OUR FORESTS. STEWARDSHIP PRACTICES MAY CHANGE RAPIDLY AND PWP'S LONG STANDING COLLABORATION AND NETWORK IS PREPARED TO DISSEMINATE INFORMATION QUICKLY AND EFFICIENTLY.



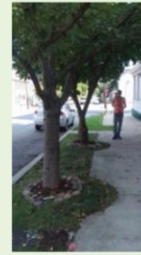
## Create more livable communities

Enhance the quality of life for communities and the health of urban watersheds through expansion of green infrastructure

The PWP encourages “urban trees” – trees in towns where we live.

Even trees growing miles away from a stream will help keep the stream healthy.

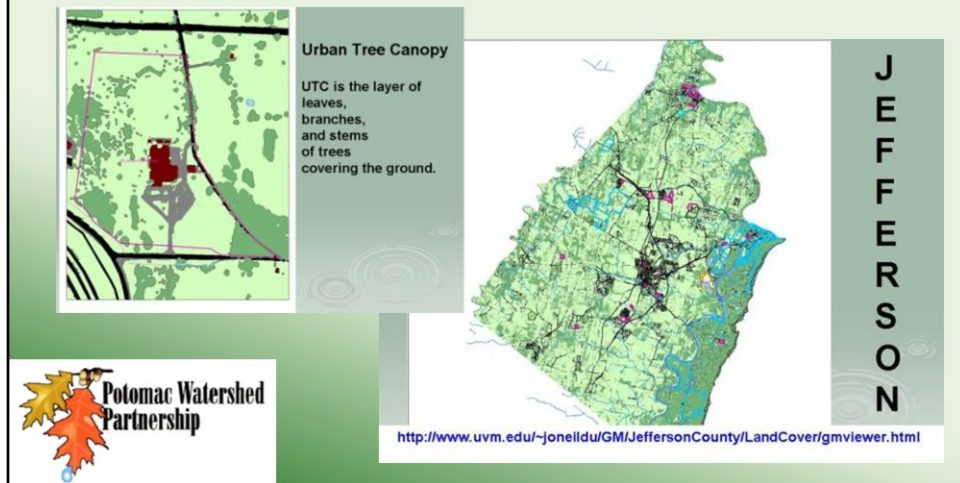
- ✓ Plant trees at your schools
- ✓ Plant with your neighbors
- ✓ Plant in your parks and along roadways



CREATE MORE LIVABLE COMMUNITIES. PWP HAS BEEN AT THE FOREFRONT IN PROMOTING GREEN INFRASTRUCTURE. NOT ONLY IN HIGHLY URBANIZED AREAS BUT IN SUBURBIA AS WELL AS RURAL AREA THREATENED BY URBAN SPRAWL.

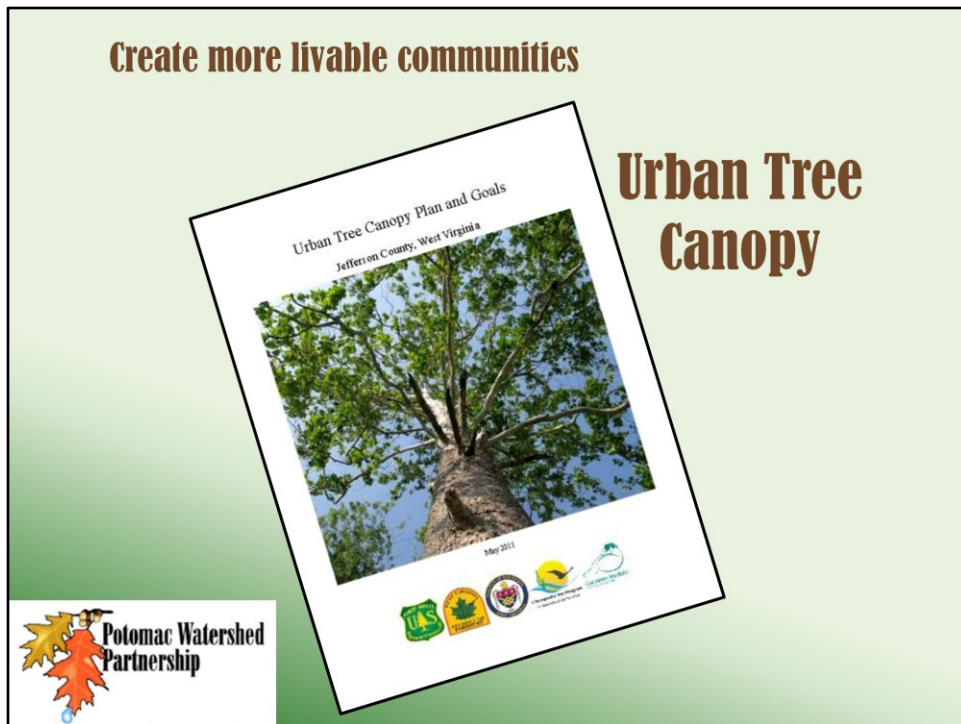
Create more livable communities

## Urban Tree Canopy



URBAN TREE CANOPY GOAL SETTING AND PLANNING HAS BEEN CHAMPIONED BY PWP. SOME OF THE BEST-ATTENDED PWP INFORMATION EXCHANGES HAD TO DO WITH URBAN FORESTRY.

PWP COLLABORATORS WERE INSTRUMENTAL IN DEVELOPING THE JEFFERSON COUNTY UTC STUDY THAT SHOWED A SURPRISING 27% TREE CANOPY COUNTY WIDE.

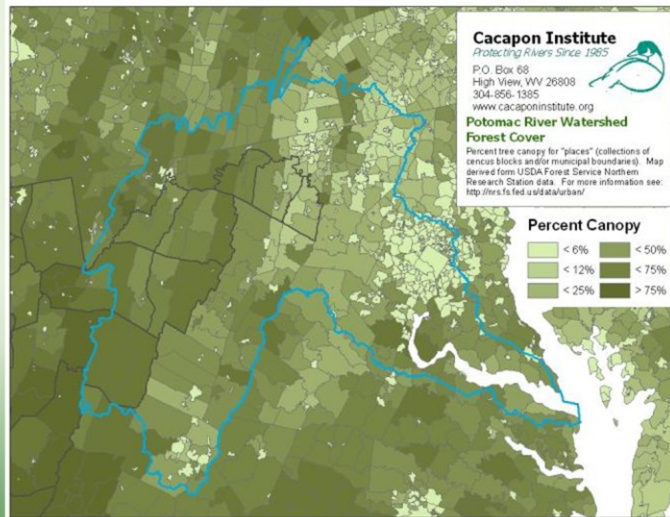


THIS LED TO THE DEVELOPMENT OF A UTC PLAN FOR JEFFERSON AND THE MUNICIPALITIES OF CHARLESTOWN, RANSON, HARPERS FERRY, BOLIVAR, AND SHEPHERDSTOWN.

IT ALSO LED TO THE COUNTY PLANNER, JENNIFER BROCKMAN, JOINING THE PWP.

## Promote land protection and stewardship

Enhance conservation through land protection and resource management.....

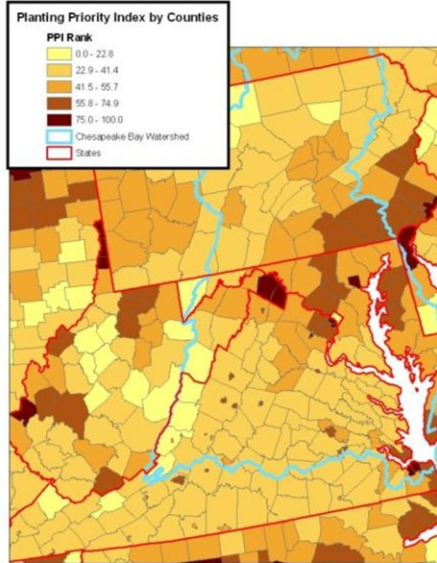


PWP PROMOTES LAND PROTECTION AND STEWARDSHIP. THIS DATA FROM THE USDA FOREST SERVICE NORTHERN RESEARCH STATION SHOWS CANOPY COVER FOR THE POTOMAC BASIN. MANY AREA, ESPECIALLY IN THE WESTERN REACHES, ARE STILL WELL FORESTED. HOWEVER, URBAN SPRAWL AND URBAN GROWTH CONTINUES TO THREATEN THE POTOMAC BASIN.

## Promote land protection and stewardship

Enhance conservation through land protection and resource management....

to reduce or mitigate the loss and fragmentation of forest habitats and working forests due to **urban sprawl**.



IN 2009 THE NORTHERN RESEARCH STATION PUBLISHED THE PPI – PRIORITY PLANTING INDEX. THIS MAP SHOW WHERE THE FOREST SERVICE BELIEVES URBAN PRESSURE WILL HAVE THE MOST IMPACT ON FOREST HEALTH AND, THEREFORE, IS MOST IN NEED OF URBAN FORESTRY ASSISTANCE. THE RATING IS BASED ON TREE COVER, POPULATION GROWTH, AND AMOUNT OF OPEN GREEN SPACE; I.E. WHERE WILL TREE PLANTING MOST BENEFIT THE POPULATION AND THERE IS GREEN SPACE AVAILABLE TO PLANT.

BERKELEY AND JEFFERSON COUNTIES, IN THE HEARTH OF THE POTOMAC BASIN, SPIKED IN THE NATIONAL STUDY.

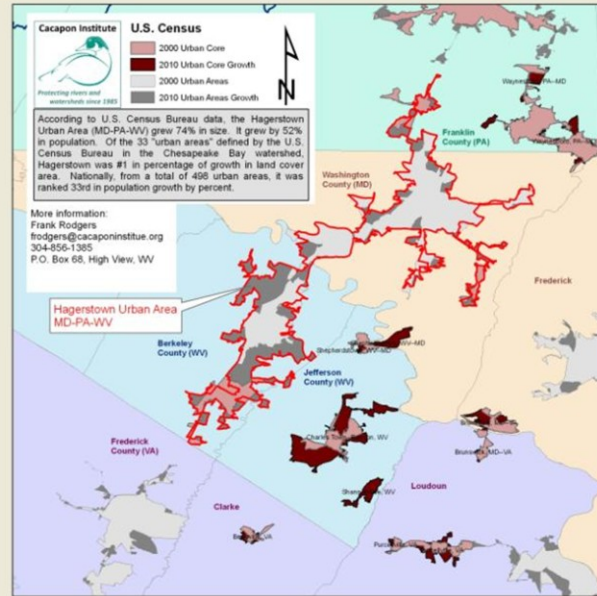
## Promote land protection and stewardship

**“Hagerstown Urban Area”**

**2000- 2010**

**Urban Landcover up 73%**

**Population up 53%**



DR. NOWAK'S WORK AT NRS WAS RIGHT ON. IN THE 2010 CENSUS, THE HAGERSTOWN URBAN AREA WAS FOUND TO HAVE THE FASTEST RATE OF GROWTH OF ANY AREA IN THE MID-ATLANTIC AND RANKED VERY HIGH NATIONALLY. 73% GROWTH IN LANDCOVER AND 53% IN POPULATION.



## Promote land protection and stewardship



***“Building  
Communities from  
the Roots Up”***



BUILDING ON LESSONS LEARNED THROUGH THE PWP, WV HAS RE-LAUNCHED WV PROJECT COMMUNITREE.

## Promote land protection and stewardship



Building on the examples of BYB and GN, WV CTree provides opportunities for volunteers to access technical assistance from the state forester and PWP partners.



WE HAVE INCORPORATED THE “AMBASSADOR” APPROACH TO VOLUNTEER ORGANIZING LEARNED THROUGH GROWING NATIVE WITH THE PRE-SUPPLY OF NATIVE PLANT SPECIES CHAMPIONED BY BACKYARD BUFFERS. COMMUNITREE ORGANIZATIONS ARE PROVIDED “TREE KITS” - PLANT STOCK AND ALL THE MATERIAL THEY NEED. THEY ARE ALSO OFFERED TECHNICAL SUPPORT. ANY ORGANIZATION WITH THE VOLUNTEER CAPACITY AND INTEREST CAN PARTICIPATE – REGARDLESS OF THEIR FORESTRY SKILLS.

## Sustain and expand partnerships

Leverage skills and resources of the Partners to expand and sustain a network of conservation partners and partnership activities in the Potomac Watershed

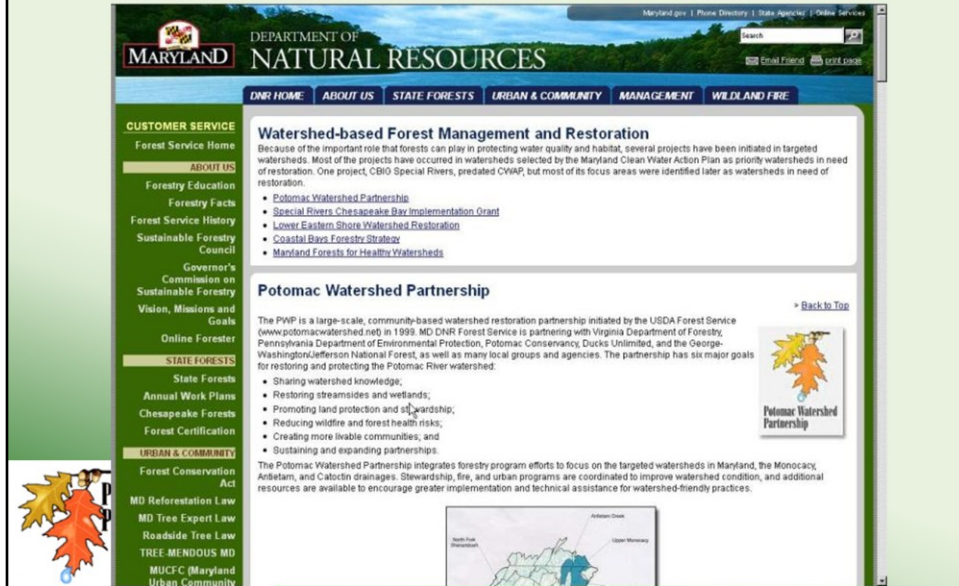


MOST IMPORTANT

PWP MUST SUSTAIN AND EXPAND OUR PARTNERSHIP. IT IS THE SKILLS AND RESOURCES OF OUR COLLABORATORS THAT MAKE PWP ACHIEVEMENT POSSIBLE.

## Sustain and expand partnerships

## PWP ONLINE



TO SUSTAIN THE PARTNERSHIP PWP MAINTAINS AN UP TO DAY WEBSITE THAT IS REFERENCED ON STATE FORESTRY AND NGO WEBSITES. HERE IS MD DNR'S LINK TO PWP.



IN ADDITION TO THE WEBSITE, PWP PRODUCES PERIODIC ONLINE AND PRINTED MATERIAL. THIS YEAR, IN A DEPARTURE FROM OUR TYPICAL MORE SCHOLARLY PUBLICATIONS, PWP PRODUCES A CALENDAR. WE HOPE THE CALENDAR WILL REACH A NEW AUDIENCE.



## Sustain and expand partnerships Information Exchange

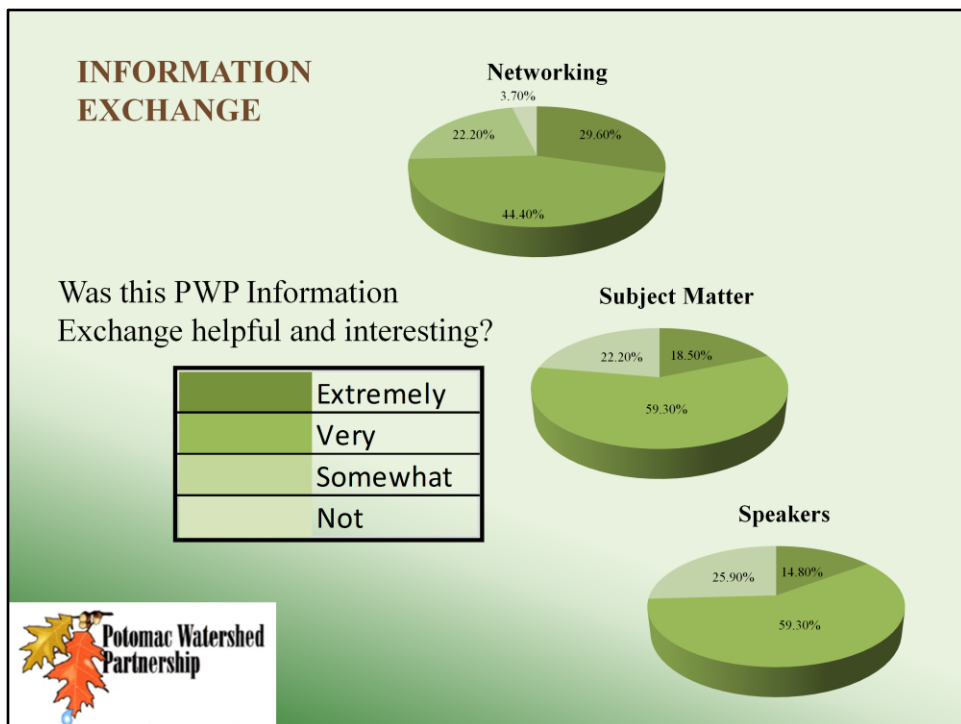


- ❖ *Private Land Protection*
- ❖ *Making Projects Successful*
- ❖ *Backyard Buffers*
- ❖ *Best Buffers*
- ❖ *Climate Change*
- ❖ *TMDL Phase II*
- ❖ *Green Schools*
- ❖ *Kids in the Wild!*
- ❖ *Urban Wetlands*
- ❖ *Tree Canopy Goals*
- ❖ *Controlling Invasives*
- ❖ *Green Street Design*

OF ALL OF PWP OUTREACH THE

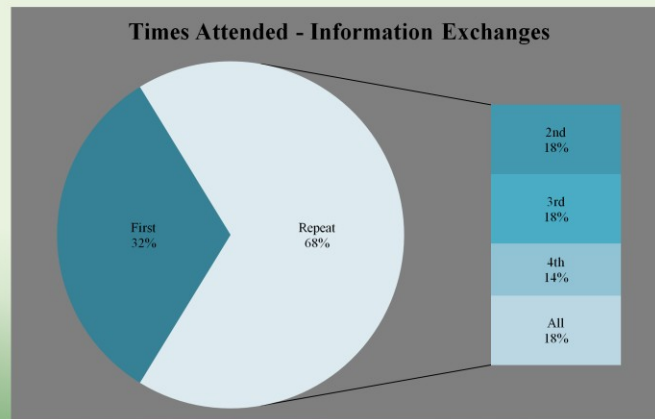
INFORMATION EXCHANGES ARE THE BEST KNOWN AND BEST REPRESENT THE COLLABORATIVE PARTNERSHIP AND ECLECTIC INTERESTS OF THE PWP RELATED TO PROTECTING THE LAND AND WATER OF THE POTOMAC BASIN. PWP EXCHANGES ARE HELD TWICE EACH YEAR AND DRAW A CROWD OF 50 TO 100 PEOPLE. HERE ARE SOME OF THE TOPICS OVER THE YEARS.





ATTENDEES ARE OFFERED A SURVEY AFTER EACH EXCHANGE. THE MAJORITY FOUND THE EXCHANGE “EXTREMELY” OR “VERY” HELPFUL.

## INFORMATION EXCHANGE



MOST INTERESTING TO ME, BECAUSE DIRECTION OF PEOPLE'S FEET IS THE BEST INDICATOR OF WHAT THEY FIND VALUABLE, IS THE NUMBER OF PARTICIPANTS WHO RETURN AFTER ATTENDING ONE PWP INFORMATION EXCHANGE. TWO-THIRDS OF ATTENDEES ARE RETURN PARTICIPANTS WITH A FULL 18% ATTENDING EVERY EXCHANGE.

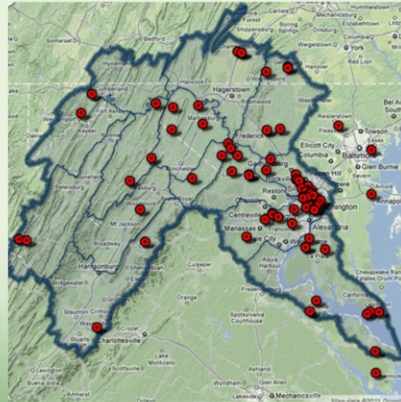
## Sustain and expand partnerships

We are not the only restoration effort, but we are one of the first large-scale *collaborative* efforts.

“The individual strengths, alliances, and resources of these federal, state, and private groups are coming together to work on common goals.”



## Why is PWP Important?




### WHY IS PWP IMPORTANT?

PWP REPRESENTS THE HISTORY OF WATERSHED RESTORATION IN THE POTOMAC. IT IS THE OLDEST AND BROADEST EFFORT OF ITS KIND. THIRTEEN YEARS AND COUNTING.



WE MUST CONTINUE TO GROW THE PARTNERSHIP AND EXPAND COLLABORATION TO CONTINUE TO MITIGATE LONG STANDING CHALLENGES SUCH AS URBAN SPRAWL, EROSION, INVASIVE SPECIES, AND FOREST FRAGMENTATION.



WE MUST ALSO PREPARE FOR THE NEW CHALLENGES OF GLOBAL CLIMATE CHANGE.







**Potomac Watershed Partnership**  
Established 1999

**Current PWP Steering Committee**

**Summer 2013  
PWP Information Exchange**

**“Drinking Water Sources In The  
Potomac Basin”**

**July 11  
Hood College, Frederick, MD**

NEXT PWP INFORMATION EXCHANGE JULY 11, 2013. HOOD COLLEGE, FREDERICK, MD.



**Potomac Watershed  
Partnership**

**Established 1999**

**Cacapon Institute**



*Protecting rivers and  
watersheds since 1985*

*For the PWP,  
Frank Rodgers, Executive Director  
Cacapon Institute*

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*[www.potomacpartnership.org](http://www.potomacpartnership.org)*

### **Current PWP Steering Committee**



CONTACT INFORMATION.