



Riparian Forest Buffers for Watershed Restoration

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DCNR Bureau of Forestry



Riparian Forest Buffer Initiative

- 1983 – Chesapeake Watershed Agreement signed
 - Goal: restore 900 miles of stream
- 2014 – Chesapeake Watershed Agreement renewed with focus on RFB
 - Reality: 64 miles of stream restored



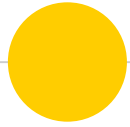
DCNR Riparian Forest Buffer Initiative

- 2016 – DCNR led formation of the Riparian Forest Buffer Advisory Committee
- 2016 – Announcement of DCNR Riparian Forest Buffer Grant via C2P2
- 2017 – First rounds of RFB grants awarded
- 2017 – Buffer Coordinator and 2 Technicians hired



Outline

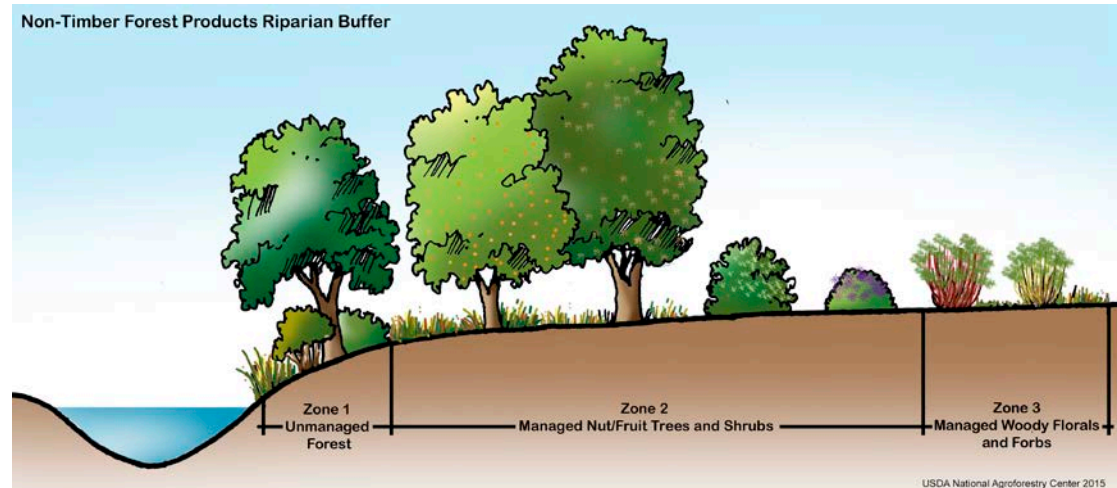
- ⦿ What is a riparian forest buffer?
- ⦿ Riparian forest buffer benefits
- ⦿ Riparian forests to complement watershed work
- ⦿ Funding riparian forest buffers
- ⦿ Partnerships
- ⦿ Planting and maintenance 101



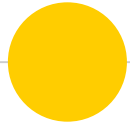
What is a Riparian Forest Buffer?

● Riparian Forest Buffers Are...

- Riparian = streamside
- Buffers = filter
 - Last line of defense







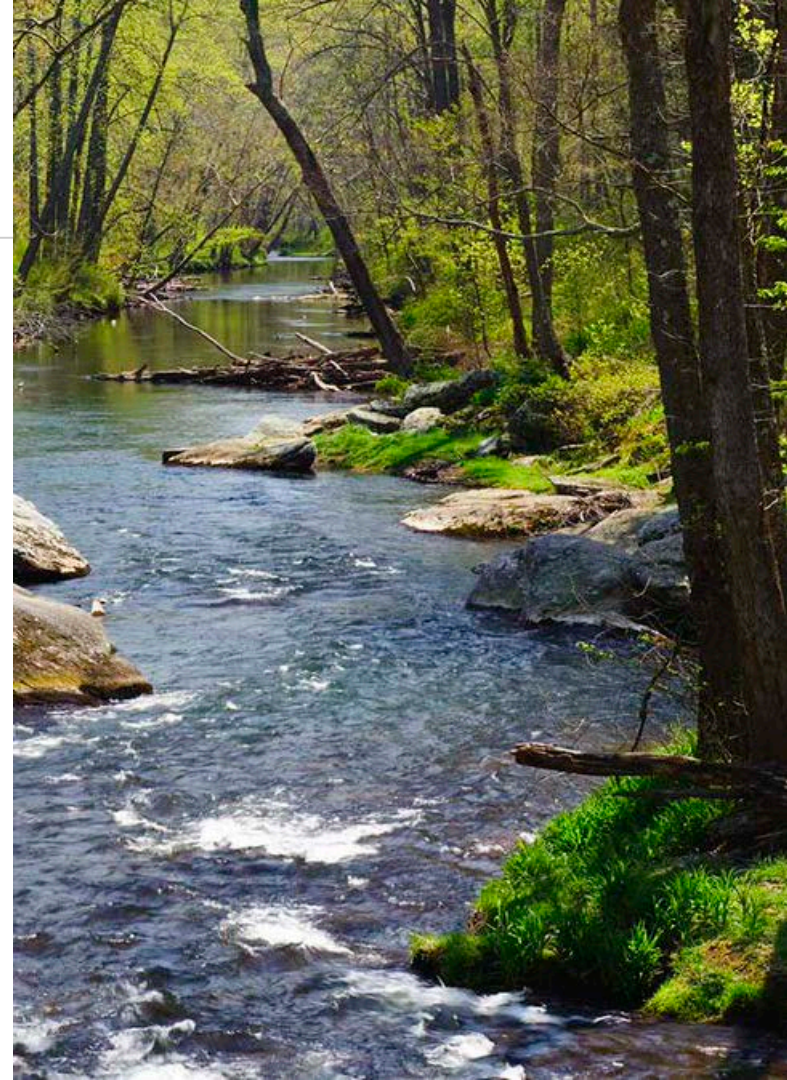
Riparian Forest Buffer Benefits

Why streamside forests matter



Improved Water Quality

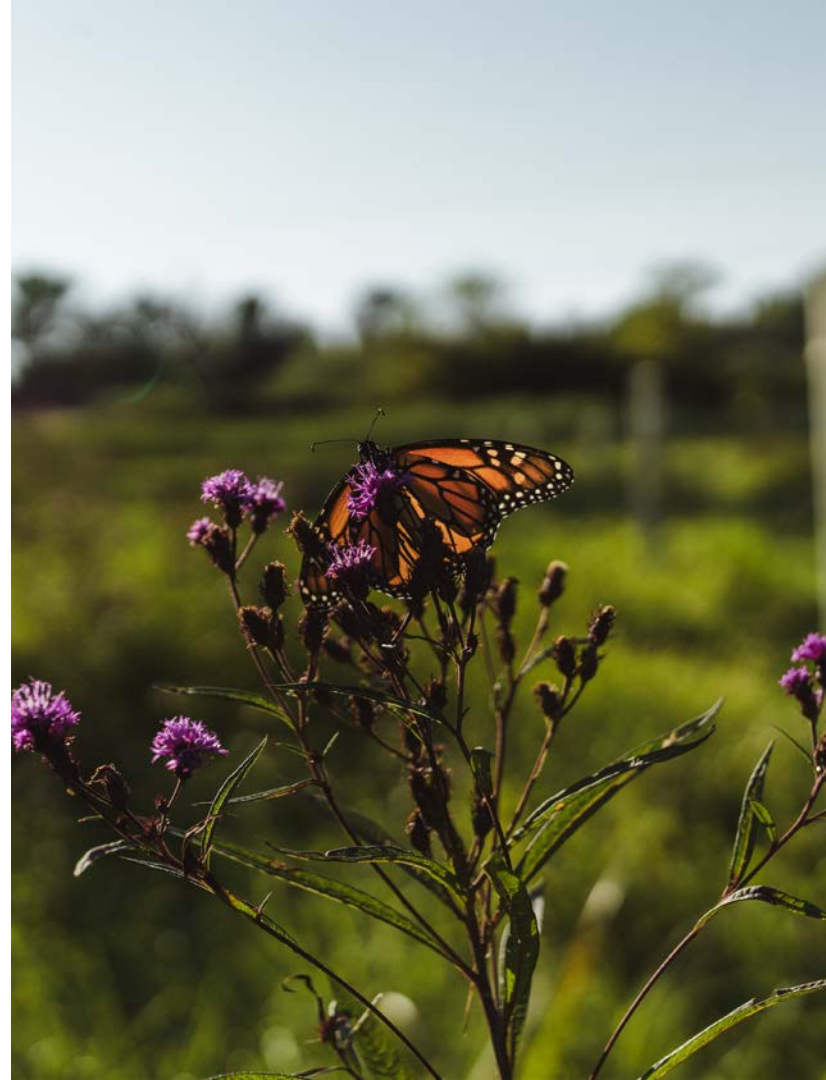
- ◎ Intercept nutrients
- ◎ Support in-stream nutrient processing
- ◎ Reduce erosion
- ◎ Shade & insulate streams





Support Natural Communities

- Base of food webs
- Support pollinators
- Create wildlife corridors
- Drop woody debris
- Provide shelter & refuge





Support Human Communities

- Foster stewardship & place attachment
- Relationship building
- Improve mental focus
- Reduce stress
- Stormwater management
- Improved herd health







Riparian Forests to Complement Watershed Restoration



Watershed Restoration

- Trees can be highly effective on their own
 - Be aware of limitations
 - Couple RFBs with other BMPs
- Plant trees *after* in-stream work
- Choose natives
- Wider buffer = more pollution reduction



Streambank Stabilization

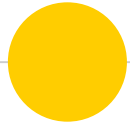
- Tree roots hold your work in place
- Attractive to grantors – higher reductions
- Use volunteers!



● Wetland Restoration

- Buffer between the upland and wetland
- Increased efficacy of wetland processing
- Be aware of where trees are *not* appropriate





Funding Riparian Forest Buffers

Cover your streams!



Finding Funding

**Contact a natural resource
professional**



Navigating the Alphabet Soup of Funding Options

- DCNR C2P2 Program
- DCNR PennVEST Program
- CBF Keystone 10 Million Trees Partnership
- NFWF
- FPW
- CREP- FSA/NRCS
- EQIP – NRCS
- REAP – SCC
- VPA-HIP - PGC

...and many more!



DCNR Community Conservation Partnerships Program (C2P2)

Eligible Applicants	Government entities, Non-profits, Educational institutions
Grant Award Amount	Minimum = \$50,000 (max single award to date = \$300,000)
Match Requirements	1:1 (\$50K award requires \$50K match); any combo of in-kind or cash
Eligible Expenses	Tree stock, planting costs, tree protection costs, maintenance costs, outreach, administrative costs
Ineligible Expenses	Associated BMPs (in-stream habitat structures, streambank stabilization devices, upland practices, etc.)
Landowner Contract Requirements	25 year landowner agreement required by fund legislation
Grant Contract Length	Four Years
RFP Frequency	RFP Open Annually, January-April
Items to Note	Funds multifunctional and conventional buffers. DCNR BRC administers. Requires cooperation with Service Forester. Match can be staff time; associated BMPs. Minimum buffer width of 15 feet to accommodate infrastructure restrictions. 35ft+ recommended. Already-identified planting sites strengthens application.

DCNR - PennVEST Multifunctional Buffer Grant

Eligible Applicants	Anyone able to pre-qualify- must submit 3 years of tax records
Grant Award Amount	Dependent on Prequalification Amount, not to exceed \$1 Million (max award to date = \$451,0000)
Match Requirements	No match required
Eligible Expenses	Tree stock, planting costs, tree protection costs, maintenance costs, etc.
Ineligible Expenses	Administrative/outreach costs not to exceed 5% of total project cost. Associated BMPs ineligible. Only funds buffers with “multifunctional” component.
Landowner Contract Requirements	25 year landowner agreement required
Grant Contract Length	Four Years
RFP Frequency	One RFP Remains; Opens Fall 2019
Items to Note	DCNR BRC administers. PENNVEST requires follow-up report of multifunctional buffer income potential. Service Forester cooperation required. Minimum buffer width of 15 ft to accommodate infrastructure restrictions. 35ft+ recommended.

PACD Multifunctional Buffer Sub - grants

Eligible Applicants	PA's 67 County Conservation Districts Only (others could access funds through partnering with local Conservation District at District discretion)
Grant Award Amount	No minimum or maximum- based on project acreage. Must apply for individual projects per-site (approx. \$5,000/acre recommended).
Match Requirements	No match required
Eligible Expenses	Tree stock, planting costs, tree protection costs, maintenance costs, etc. Staff time for installation and maintenance.
Ineligible Expenses	Outreach and education, legal fees, advertisement fees, site prioritization and design, and purchasing equipment
Landowner Contract Requirements	25 year landowner agreement required
Grant Contract Length	Dependent upon project timeline proposed
RFP Frequency	Continuously open through June 2021 or until fund is depleted
Items to Note	Will require follow-up report of multifunctional buffer income potential coordinated by PACD. Service Forester cooperation required. Minimum buffer width of 15 feet to accommodate infrastructure restrictions. 35ft+ recommended.

CREP, EQIP, & other USDA Programs

BUFFER OPTIONS	CRP/CREP	CSP	EQIP	WRE
Payments	100%+ practice; practice bonus?; per-acre rental <i>for buffer</i>	10% practice <i>or</i> 75%+ enhance; per-acre stewardship <i>for</i> <i>entire operation</i>	75%+ practice	100% practice; per-acre payment <i>for</i> <i>entire easement</i>
Contract length	10 – 15 years	5 years	1 – 10 years	Permanent (legal easement)
Long-term management	Required, min. of every 5 years	As needed	As needed	As needed
Flexibility for use of buffer	Very Low	High	High	Low
Eligibility Requirements	Ag use; <i>must fix</i> <i>the existing</i> <i>resource concern</i>	Any ag use; <i>must</i> <i>meet</i> <i>stewardship</i> <i>requirements</i>	Any ag use; <i>must</i> <i>fix the existing</i> <i>resource concern</i>	Any ag use; <i>must</i> <i>include wetland</i> <i>restoration</i>
Level of complexity	High	Moderate	Low	High

DEP Small Business Advantage Grant Program

Eligible Applicants	Owners of small businesses (including farms) with less than 100 FTE employees; must be for-profit businesses appropriately registered w/ PA Department of State.
Grant Award Amount	Maximum \$9,500/award.
Match Requirements	Match totaling 50% of materials cost required. Can be business contribution, or matched with other non-state-funded source (USDA, etc.)
Eligible Expenses	Costs associated w/buffer plantings including trees/shrubs/plants, stakes, shelters, seed mix, weed mats. Multifunctional or conventional buffers. Streambank exclusionary fencing, and other runoff controls reducing N, P, or S.
Ineligible Expenses	Labor/installation, freight, taxes, shipping, training, warranties, removal, disposal, recycling, permits, inspection costs, consulting/professional services, excavating, demonstration projects.
Landowner Contract Requirements	Buffer must remain in place for 15 years
Grant Contract Length	Approximately one year- no extensions granted.
RFP Frequency	Annually; usually opens late July as funds are available.
Items to Note	DEP administers contract directly with business owner. Money is not given up front, but at project completion, bills can be sent directly to DEP so farmer/business owner doesn't have to front costs if this is a barrier. Can fund multiple BMPs (i.e. fencing and buffer) in one application.

TreeVitalize Urban Riparian Forest Buffer Grants

Eligible Applicants	Government entities, Non-profits, Educational institutions.
Grant Award Amount	Minimum Award = \$1,500; Max = \$25,000.
Match Requirements	1:1 match required; any combo of in-kind or cash.
Eligible Expenses	Tree stock, planting costs, planning costs, tree protection costs, maintenance costs, outreach and education, etc.
Ineligible Expenses	Associated BMPs, buffers inaccessible to the public, buffer plantings on private and agricultural lands.
Landowner Contract Requirements	No contract; currently planted on public lands only
Grant Contract Length	January 1-December 31 of year following award announcement.
RFP Frequency	Annual. For 2019, letters of intent become available March 1; Due May 1. LOIs are required to advance to a full application. Applications due July 12 th , 2019.
Items to Note	Buffer does not need to be in an “urban” area, but rather any type of community space. <u>Must</u> be publicly accessible.



Finding Funding

**Contact a natural resource
professional**

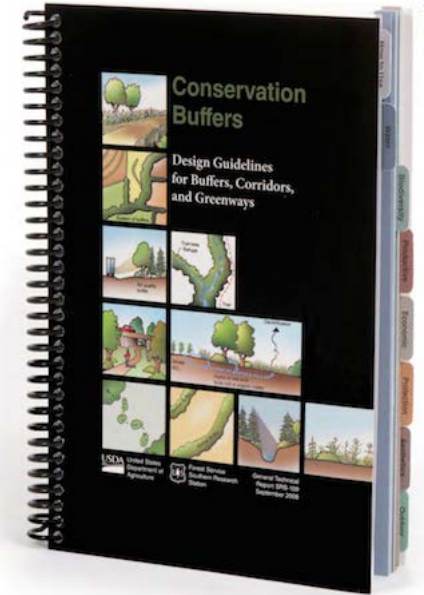


Navigating your Options

1. Contact a conservation professional
2. Schedule a site visit – discuss needs & wants
3. Explore funding options & decide on best fit
4. Complete funding requirements
5. Plant trees
6. Care for the trees and enjoy the buffer!

Designing Buffers for YOUR Land

- Consider land and water needs
- Consider landowner wants
- Look at the surrounding landscape



Conservation Buffers: Design Guidelines for Buffers, Corridors, and Greenways. (USDA & USFS 2008)



Partnerships Make Success Possible

Regional & statewide partnerships to lean on



Precision Conservation

- Chesapeake Conservancy
- Putting the right BMPs in the best locations
- Centre, Clinton, Huntingdon, & Clinton counties
- Two online mapping tools available:
 - Professional – prioritization tool
 - Landowner – restoration reports
 - <https://restorationreports.com/>



Chesapeake Bay Foundation: Keystone 10 Million Trees Partnership



Keystone
10 MILLION TREES
PARTNERSHIP

- ⦿ Engage new partners across the state
- ⦿ Duncannon distribution center
- ⦿ Tool trailers
- ⦿ <http://www.tenmilliontrees.org/>



Cumberland Conservation Collaborative

- Conglomerate organization
- Brings multiple organizations to the same table
- Share resources, knowledge, volunteers
- Synergistic impacts
- <https://www.cumberlandconservationcollaborative.org/>



Alliance for the Chesapeake Bay

- ◎ Chesapeake Riparian Forest Buffer Network
 - <http://chesapeakeforestbuffers.net/>
 - Resource and knowledge sharing about RFBs

- ◎ Chesapeake Network
 - <https://www.chesapeakenetwork.org/>
 - Facebook for the Chesapeake Bay

● Live Stake Cooperative

- Chesapeake Conservancy, DCNR, & Susquehanna University
- Harvesting 8,000 live stakes this spring
- Volunteer harvests





Buffer Best Practices

Tips to get the most out of your riparian forest buffer

● First, Plant for Success

- Cross-check site conditions with species requirements
- Control competing vegetation
- Leave mowing space between tree rows
- Install trees and tree shelters properly
- Follow volunteers for QA



● Be OK with Setbacks

- ◎ Things are messy and complicated and not always linear
- ◎ Disturbance is a natural thing
 - New communities may form
 - Replanting may be necessary
- ◎ Lean on your a support system





Caring for your New Buffer

- ⦿ Maintenance is critical during first 4 years
- ⦿ Walk the buffer in every season & after major storm events
- ⦿ Unsure of something? ASK!



Leave Snags & Woody Debris in Place

- ⦿ Dead trees are full of life!
- ⦿ Does it pose a risk to life or property?
 - No – leave it to the wildlife
 - Yes – get a professional







Restore Native Communities

- Remove invasive vegetation
 - IVM methods
- Plant natives
 - Support higher diversity and abundance of organisms





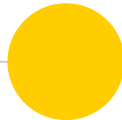
Connect with your Streamside Forest

- Walk in Penn's Woods
- Photography walks
- Streamside picnics
- Fishing
- Go play in the



**“The health of our waters is
the principal measure of
how we live on the land”**

Luna Leopold



Thank you!



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