Riparian Buffers

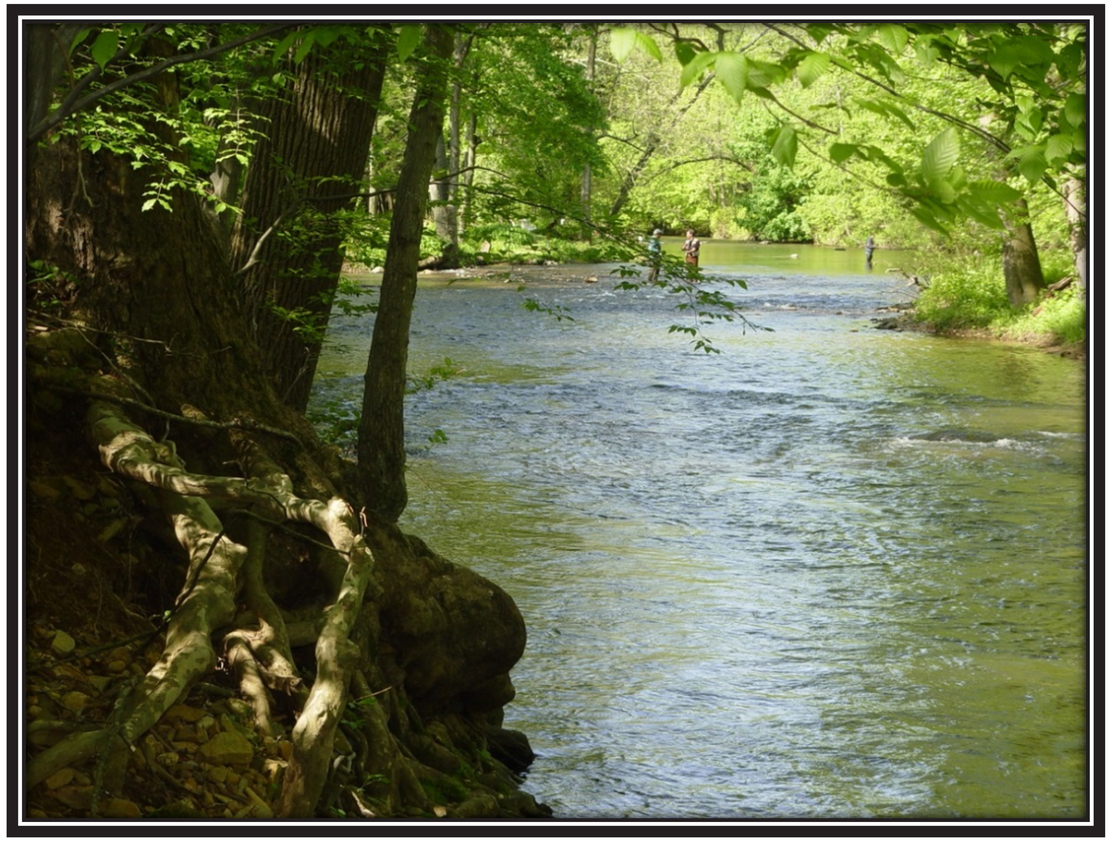
Preserving and Enhancing Your Natural Resources

West Vincent Township, Chester County, Pennsylvania
February 21, 2017

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

History

The French Creek Watershed Association was founded in 1964 as a grassroots response to an Army Corps of Engineers proposal to dam the French Creek to supply drinking water. In 1968 the association changed its name to Green Valleys Association of Southeastern PA - reflecting our expanded stewardship area of all the watersheds in northern Chester County.



The first major undertaking of the French Creek Watershed Association is to employ the Academy of Natural Sciences in Philadelphia to perform a survey of the water quality of French Creek. Resulting information will establish the precise condition of the Creek, against which changes may be measured, for better or for worse, and appropriate action recommended.

- Everett Rodebaugh, Founder

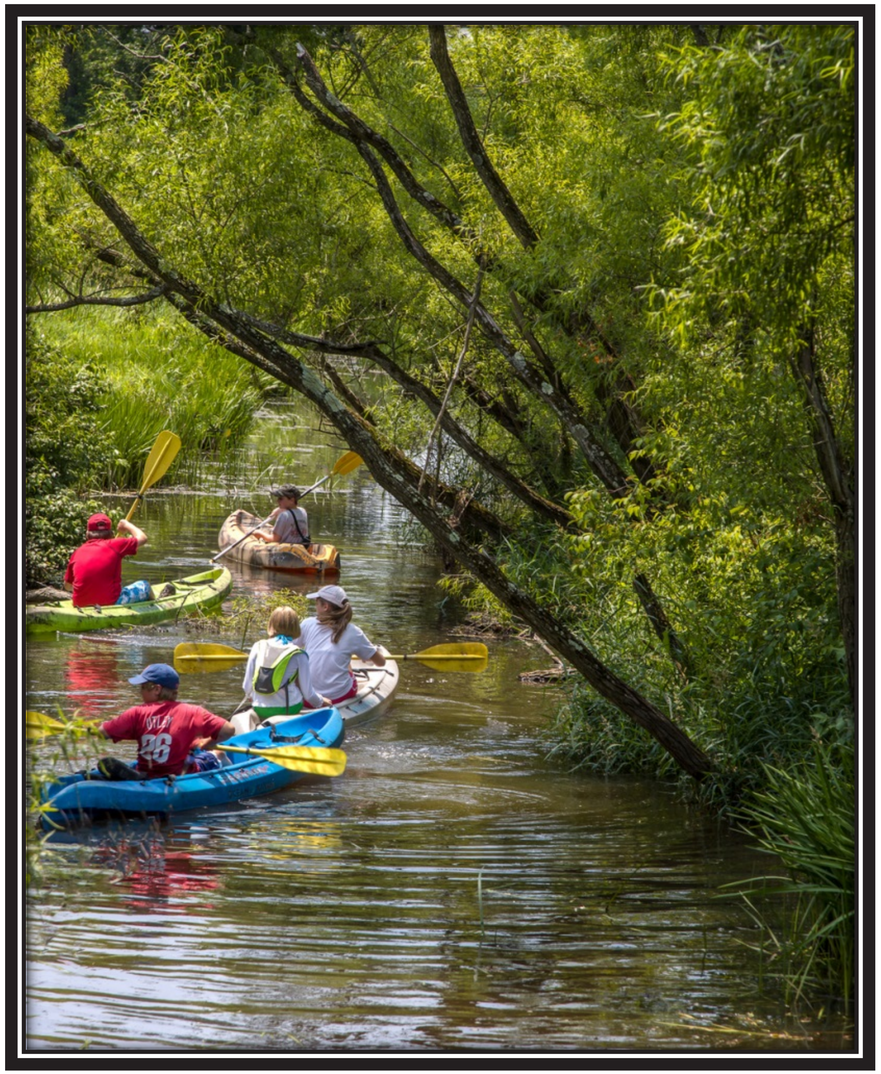
Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Mission:

To protect, preserve, and restore the natural waterways of northern Chester County. We inspire, educate, and involve our community to make a difference for our generation and for generations to come.



Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

What is a Riparian Buffer?

A riparian buffer is a best management practice (BMP) that is an area of permanent vegetation along perennial or intermittent streams, rivers, lakes, ponds and reservoirs that is left undisturbed to allow for natural succession of native vegetation.
- PA DEP *Riparian Forest Buffer Guidance*

Forest buffers are the trees, shrubs and grasses planted along waterways that help protect water quality. Technically known as riparian areas, they act as filters to reduce pollutants and sediment from reaching the water.
-PA DCNR *Riparian Forest Buffers*

How Riparian Buffers help safeguard your community's health and well being:

- Water Quality Protection (pollutant and sediment removal)
- Flood Protection
- Erosion Stabilization
- Ground Water Recharge
- Food, Shelter and Travel Corridors for Wildlife
- Water Temperature Moderation

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Meadow Buffer | Forested Buffer | Waterbody | Natural Buffer | Managed Buffer

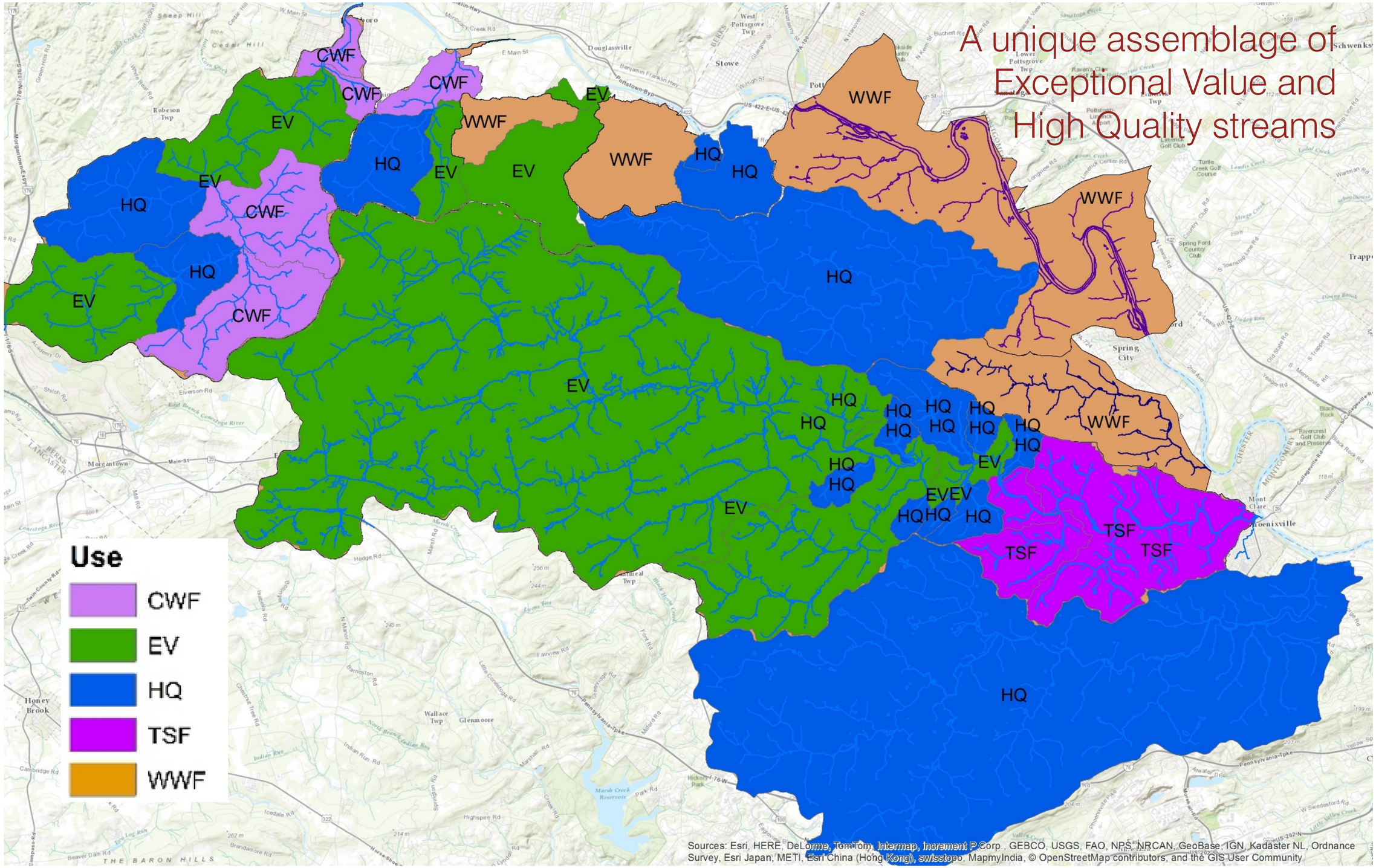
PLANT COMMUNITIES

MANAGEMENT STRATEGIES

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING



Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION

Theurkauf DESIGN & PLANNING

SPECIAL PROTECTION WATERSHEDS

High Quality Waters

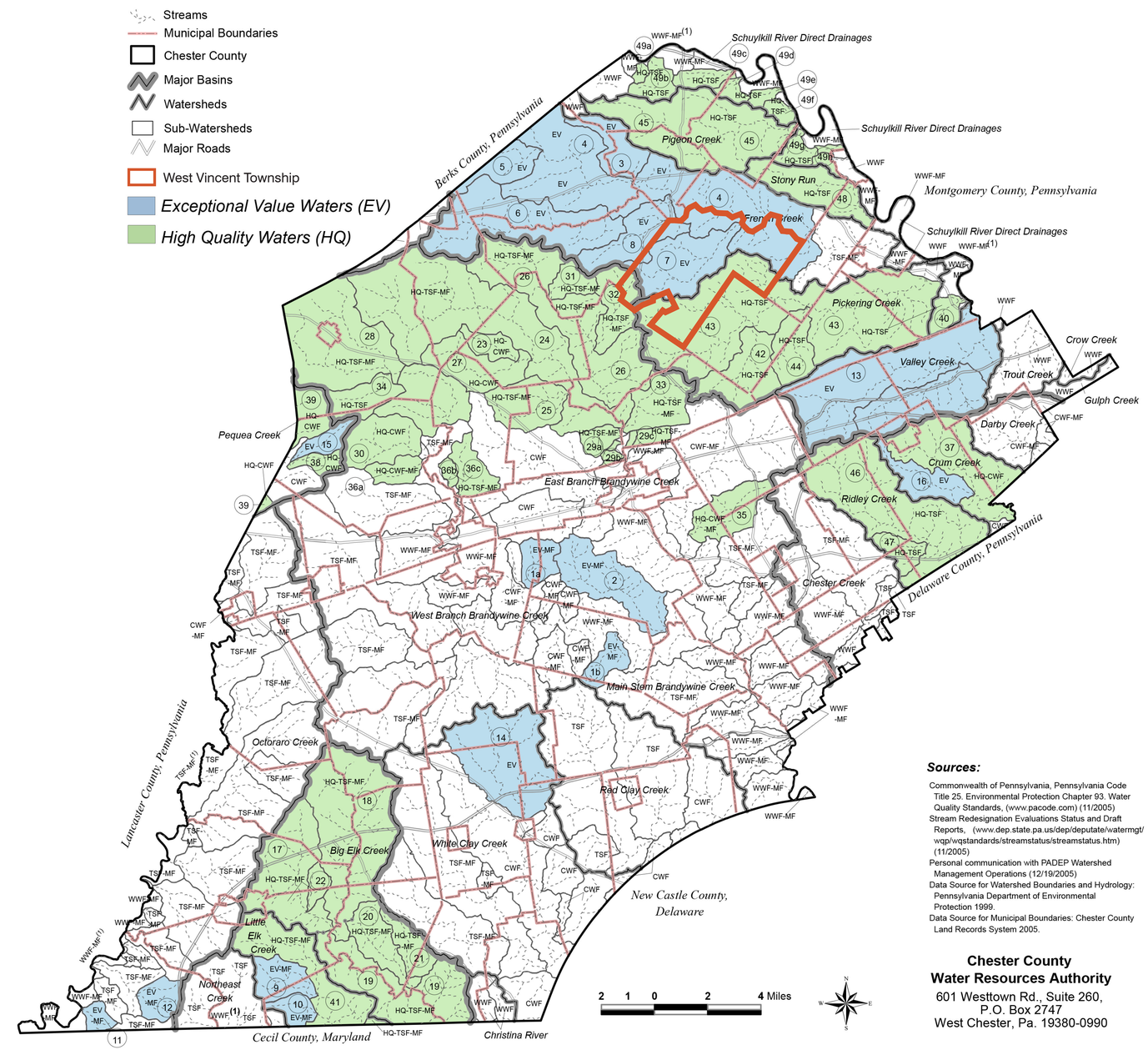
Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying Water Quality Standards of the PA Code § 93.4b(a).

- Satisfies benchmarks of Chemistry and Biology and supports a high quality aquatic community.

Exceptional Value Waters

Surface waters of high quality which satisfy water quality standards of the PA Code § 93.4b(b). Beyond meeting High Quality Benchmarks, Exceptional Value Water:

- Is a surface water of exceptional recreational significance;
- Is of exceptional ecological significance; or
- Is located within a protected zone e.g. State Park.



Sources:

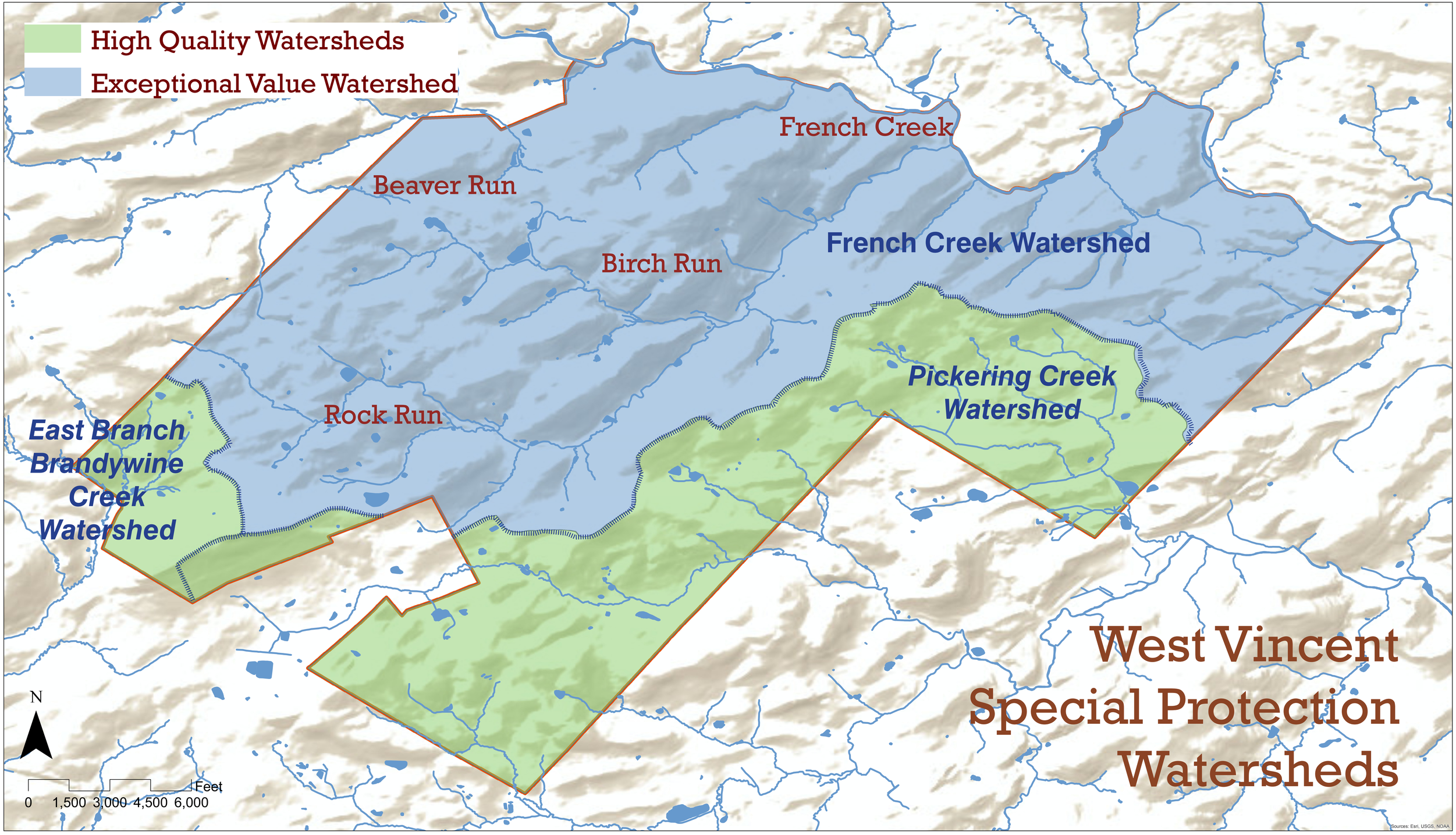
Commonwealth of Pennsylvania, Pennsylvania Code Title 25. Environmental Protection Chapter 93. Water Quality Standards, (www.pacode.com) (11/2005)
Stream Redesignation Evaluations Status and Draft Reports, (www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/streamstatus/streamstatus.htm) (11/2005)
Personal communication with PADEP Watershed Management Operations (12/19/2005)
Data Source for Watershed Boundaries and Hydrology: Pennsylvania Department of Environmental Protection 1999.
Data Source for Municipal Boundaries: Chester County Land Records System 2005.

Chester County Water Resources Authority
601 Westtown Rd., Suite 260,
P.O. Box 2747
West Chester, Pa. 19380-0990

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING



Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

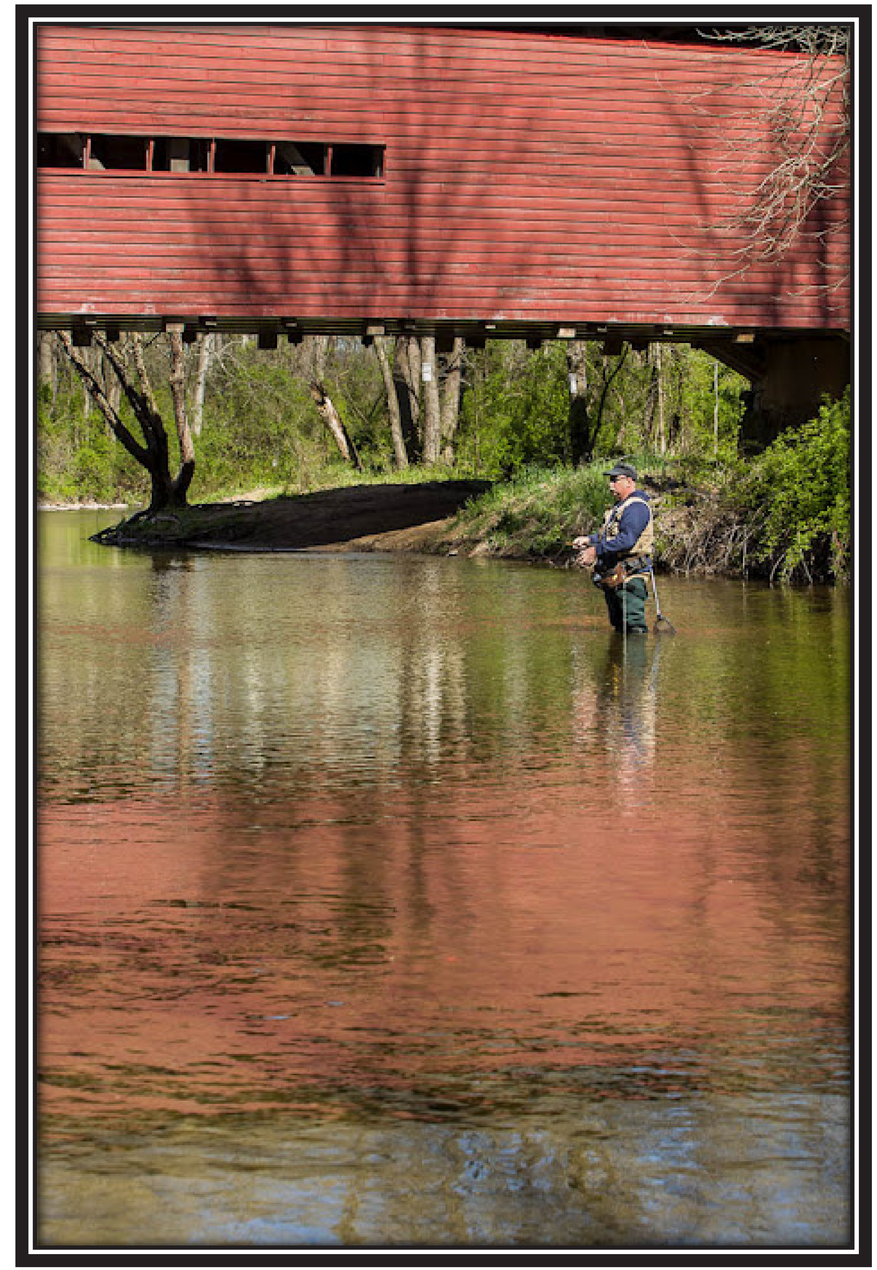
Why are these streams EV/HQ?

- Largely forested
- Some agriculture
- Low Population Density

View north from Horse Shoe Trail

French Creek

A Pennsylvania Scenic River, designated Exceptional Value from its headwaters to the Kennedy Covered Bridge in Kimberton. There are 17 municipalities in two PA counties that are within the 70 square mile watershed.



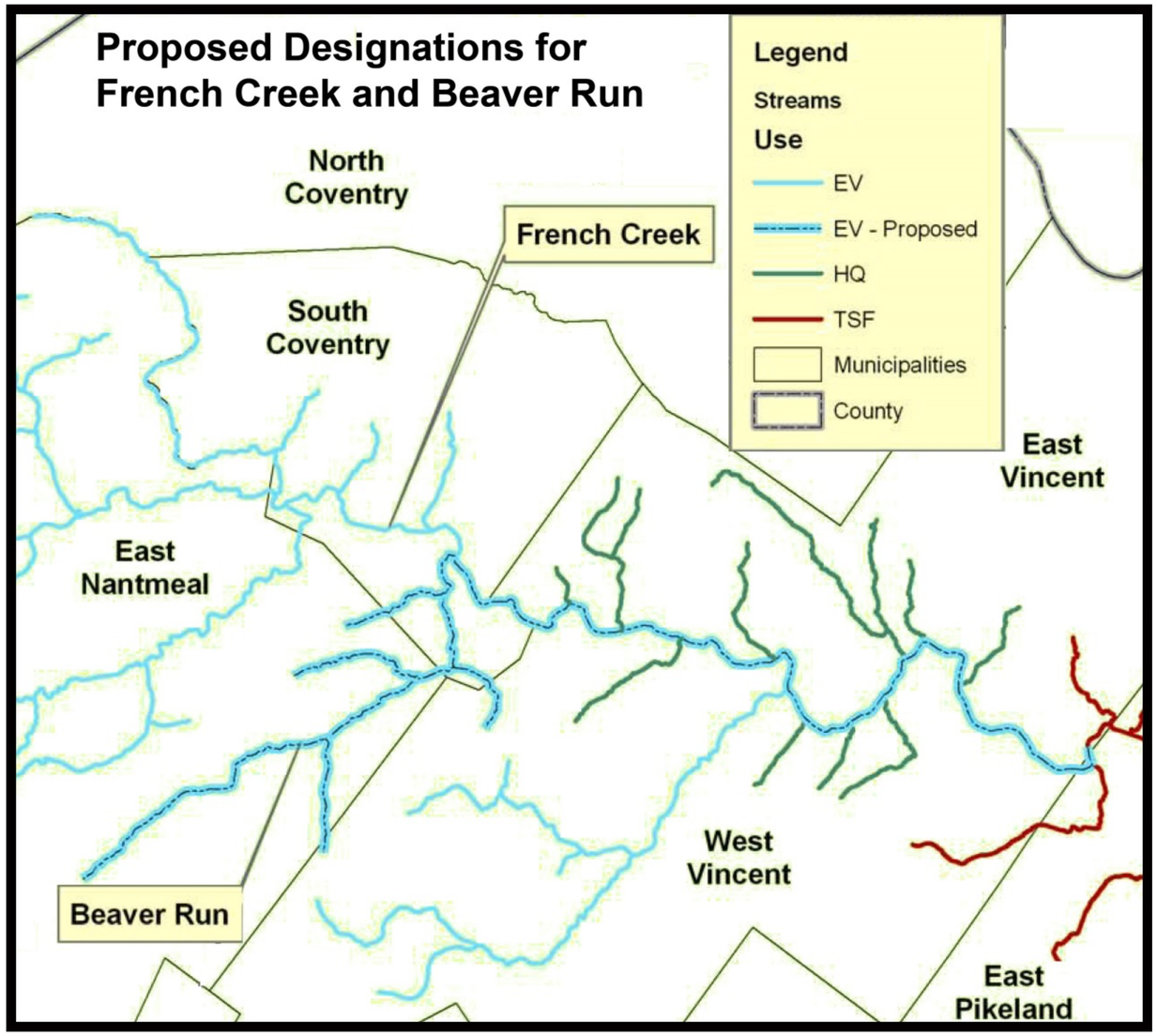
Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

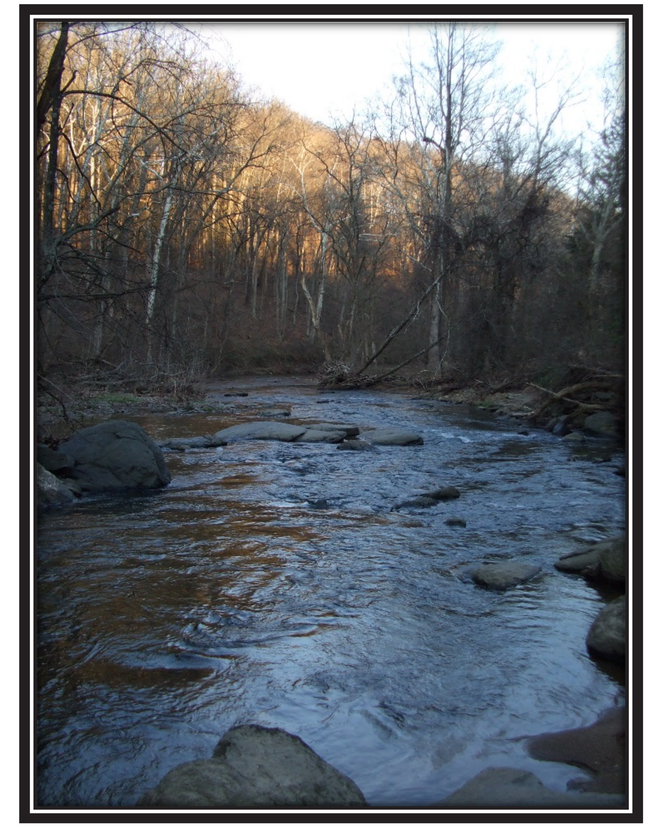
French Creek

Green Valleys has had two successful EV upgrades in the French Creek; the first in 1998 (Upper & South Branch to Beaver Run) followed by a second in 2010 (Beaver Run and confluence with the main stem to the Kennedy covered bridge



Pickering Creek

Pickering Creek is a 15.3 mile long tributary to the Schuylkill River covering 39 square miles. It is impounded just before the confluence with the Schuylkill to form the Pickering Creek reservoir, which provides drinking water to residents.



Pickering Creek is designated as a *High Quality* stream. Many land trusts are active in the watershed, working to preserve open space and numerous historic resources.

What are the Statewide standards for riparian buffers?

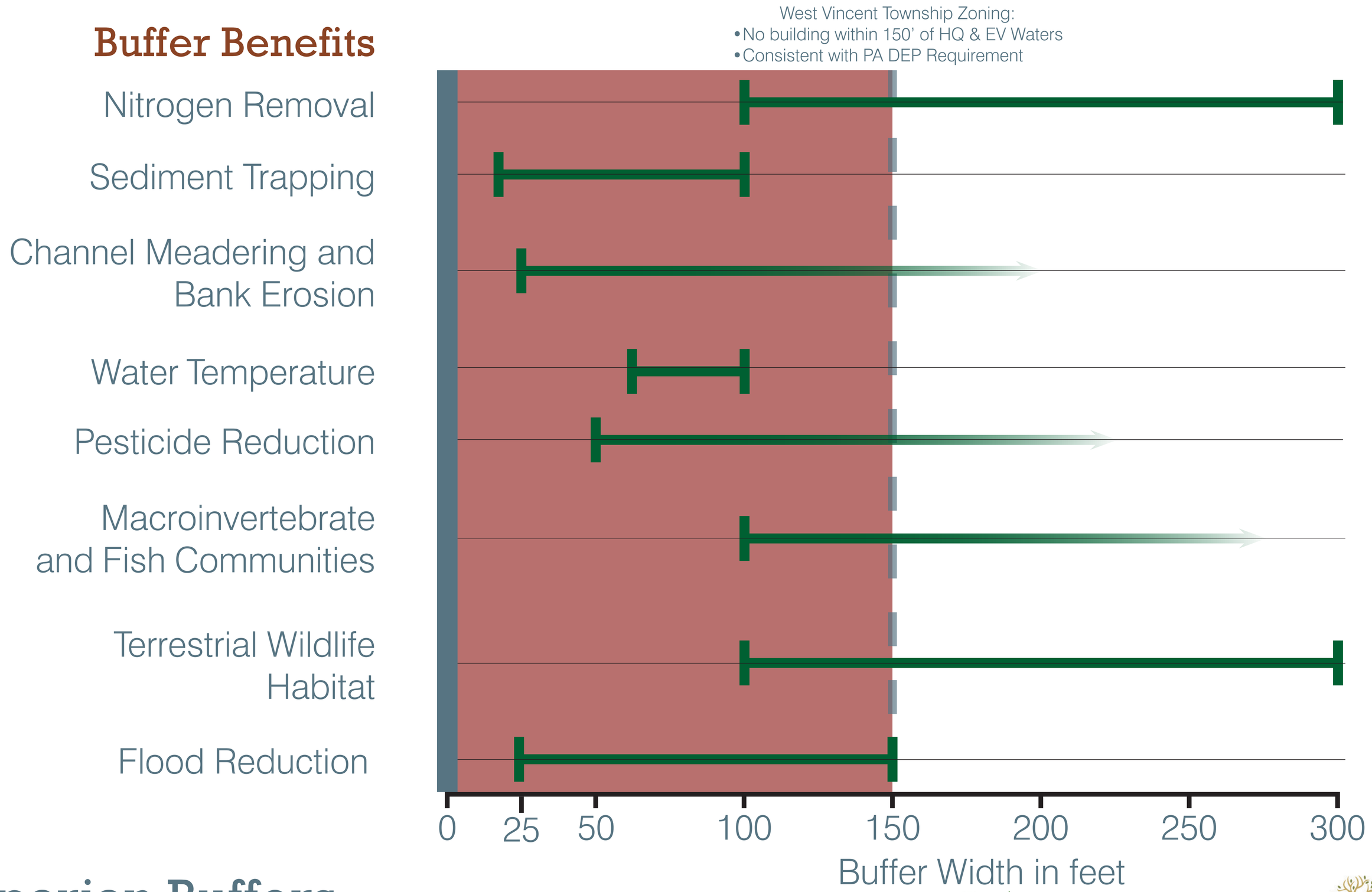
PA Code § 102.14:

"persons proposing or conducting earth disturbance activities when the activity requires a permit under this chapter may not conduct earth disturbance activities within 150 feet of a perennial or intermittent river, stream, or creek, or lake, pond or reservoir when the project site is located in an exceptional value or high quality watershed."

- 100 foot buffer for non-special protection streams
- 60% tree or shrub cover required
- **Does not apply to disturbance <1 acre**

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Buffer Benefits

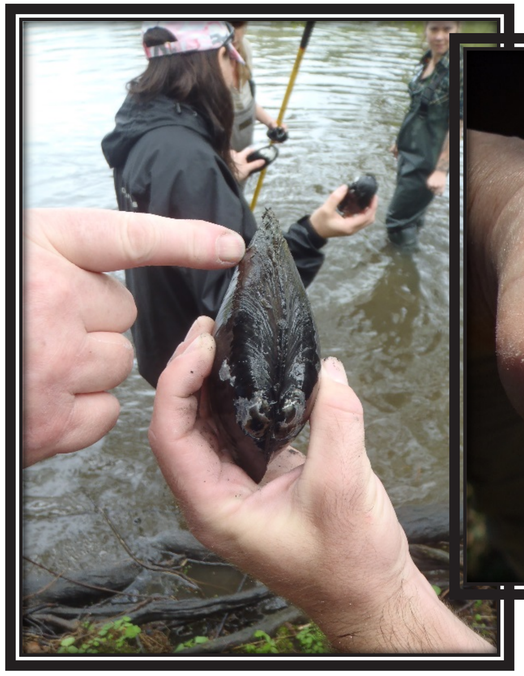


Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION

Theurkauf DESIGN & PLANNING



Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Current West Vincent Township Regulations

ZO 2206.C.4 - French Creek Scenic River Corridor

- Timber harvesting allowed
- No clear-cutting within 100’ of the creek

Current West Vincent Township Regulations

ZO 2307 - Stream Buffers

- 150’ buffer - No structures or sewage facilities, limited grading and clearing permitted
- 4’ of additional buffer for each 1% of slope above level

  5% slope --> 170’ buffer

  10% slope --> 190’ buffer

  15% slope --> 210’ buffer

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Current West Vincent Township Regulations

ZO 2307 - Stream Buffers

For development with >1 acre disturbance:

- Undisturbed or reforested with 60% canopy cover

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Recommendations for Riparian Buffers in West Vincent

- No grading or clearing within 100’ of stream
- Native forest, woodland, or meadow required within 100’ of stream
- No disturbance within 100’ except natural surface trails and activities permitted by the Commonwealth
- Prohibit timber harvest within 50’ of stream
- 100 to 150’ from stream - Maintain current ordinance provisions

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Healthy watersheds begin with forests. These streamside forests (riparian buffers) protect and improve water quality as well as provide wildlife habitat.

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Planting trees is a great way to engage people in the community and to increase their awareness of the connection between forests and waters.

Riparian Buffers

Preserving and Enhancing Your Natural Resources

GREEN VALLEYS WATERSHED ASSOCIATION | Theurkauf DESIGN & PLANNING

Resources

Forested Buffers: The Key to Clean Streams - stroudcenter.org. (n.d.). http://www.stroudcenter.org/press/pnassumarychbayfdn06.pdf

McElfish, J.M., Kihslinger, R.L., & Nichols, S.S. (2008). *Planner's Guide to Wetland Buffers for Local Governments*. Washington, D.C.: Environmental Law Institute.

Model Riparian Buffer Protection Overlay District: Proposed Regulation for Use in a Municipal Zoning Ordinance, 2nd Edition. (2016, March 11). http://conservationtools.org/library_items/1261-Model-Riparian-Buffer-Protection-Overlay-District-Proposed-Regulation-for-Use-in-a-Municipal-Zoning-Ordinance-2nd-Edition

Palone, R.S., & Todd, A.H. (1998). *Chesapeake Bay Riparian Handbook: A Guide for Establishing and Maintaining Riparian Buffers*. Morgantown, WV: U.S. Dept. of Agriculture, Forest Service, Northeastern Area, State and Private Forestry.

Riparian Forest Buffers – Linking Land and Water. (2004, July). http://www.chesapeakebay.net/content/publications/cbp_12999.pdf

Sweeney, B.W., & Newbold, J.D. (2014). *Streamside Forest Buffer Width Needed to Protect Stream Water Quality, Habitat, and Organisms: A Literature Review*. JAWRA Journal of the American Water Resources Association, 50 (3), 560-584.

Theilacker, J., Horner, W., & Loza, A. M. (2014, June 5). Riparian Buffer Protection via Local Regulation. http://conservationtools-production.s3.amazonaws.com/library_item_files/1273/1195/CT_RiparianBuffer140605.pdf