

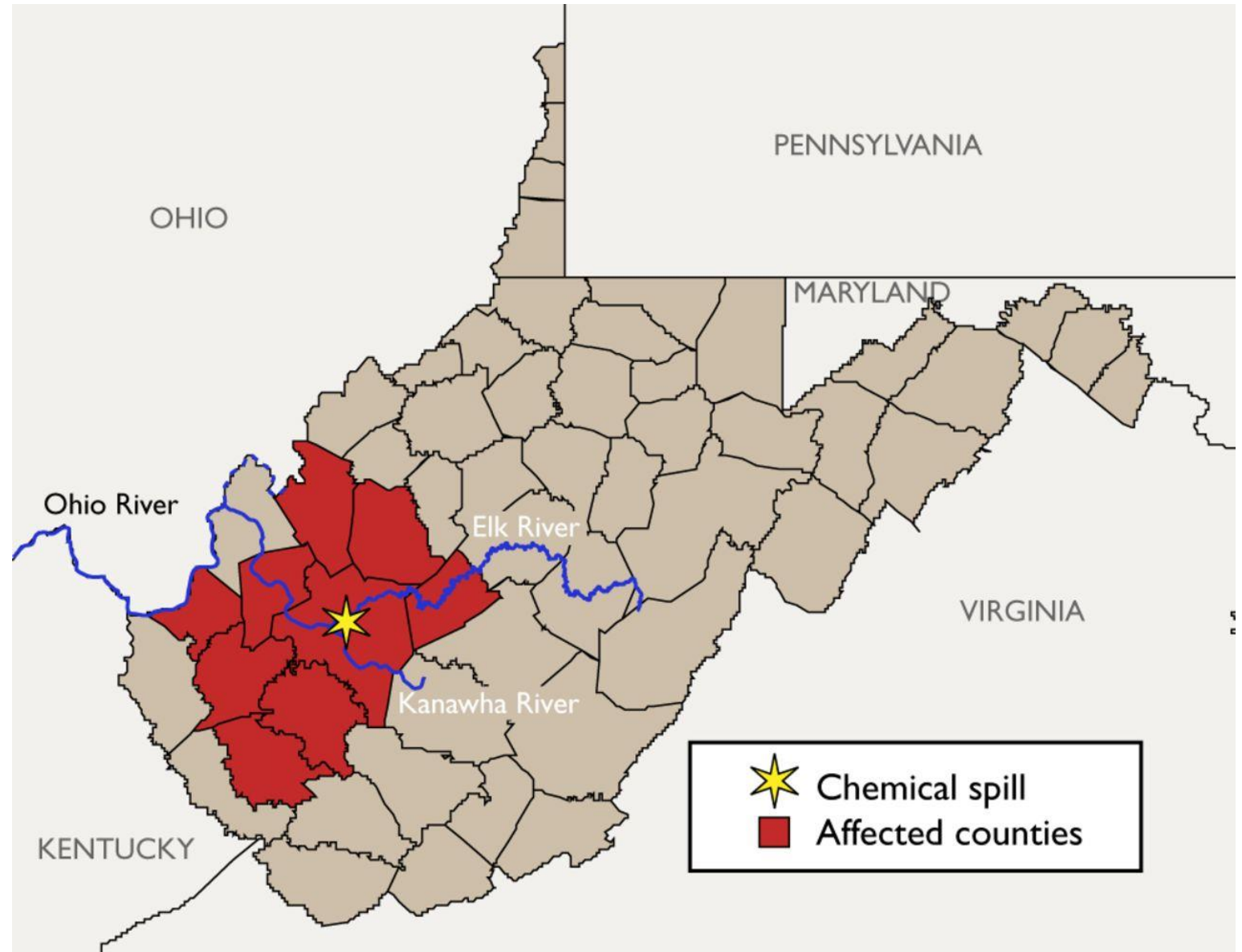
Private Lands, Public Waters: Safe Water for West Virginia Conservation Collaborative

EASTERN PANHANDLE GIS USERS GROUP MEETING

WEDNESDAY, SEPTEMBER 11TH, 2019

Background

- **January 2014** – Elk River Chemical Spill
- **March 2014** – SB 373 requiring all water utilities to have Source Water Protection Plans
- **July 2016** – SWPPs go into affect across the state
- **2017-2019** – WV Rivers Creates Safe Water for WV Program and forms Safe Water Conservation Collaborative
- **2019-2020** – GIS Prioritization of high-value land & direct landowners outreach



Private Lands, Public Waters

A Safe Water for West Virginia Conservation Collaborative



Protecting Land to Protect Drinking Water

POLICY PRIORITIES

Accelerating land protection within drinking **water protection areas**

Collaborating to shore up existing funding streams that **protect drinking water supplies.**

seek new policies on innovative ways to **protect water supplies** through land conservation

PUBLIC AWARENESS & OUTREACH

Elevating public understanding of land conservation and the **challenges facing drinking water.**

Working with elected leaders and public officials

Informing water utility customers and upstream landowners about voluntary actions that can **make a difference for drinking water.**

COLLABORATION ON LAND CONSERVATION

Informing landowners about opportunities to conserve their land.

Leveraging resources to address one of our state's most pressing challenges.

Collaborating to seek additional funding to accelerate land conservation that **protects drinking water.**

2019-2020 objectives

1. Prioritizing high-value land to conserve;
2. Hosting direct landowner outreach events; and
3. For already-eased lands, working with easement holders on implementing best management practices on their land to protect water quality

Prioritization – Guiding Principles

1. **Flexibility** – plans are plans, but we must be flexible
2. **Accessibility** – should be comprehensible to all members of community
3. **Explicitness** – clearly defined terms, good documentation, accountability
4. **Feasibility** – prioritization method must be practical
5. **Accounting and communication of uncertainty** – be clear on sources of error/bias
6. **Enhance over time** – be open to improvements and changes over time
7. **Driven by theory, data and knowledge** – indicators must be justifiable and appropriate
8. **Encompassing of ecological and socioeconomic considerations** – must recognize these factors in prioritization method and implementation
9. **Evaluated by effective performance monitoring** – should include measures for monitoring & evaluating success

Prioritization – Indicators

Water Quality

What values of the land are most important to protecting water quality?

Programmatic

What values of the land make a potential easement easier to fund or brings new partners to the table to make the potential easement a reality for the landowner?

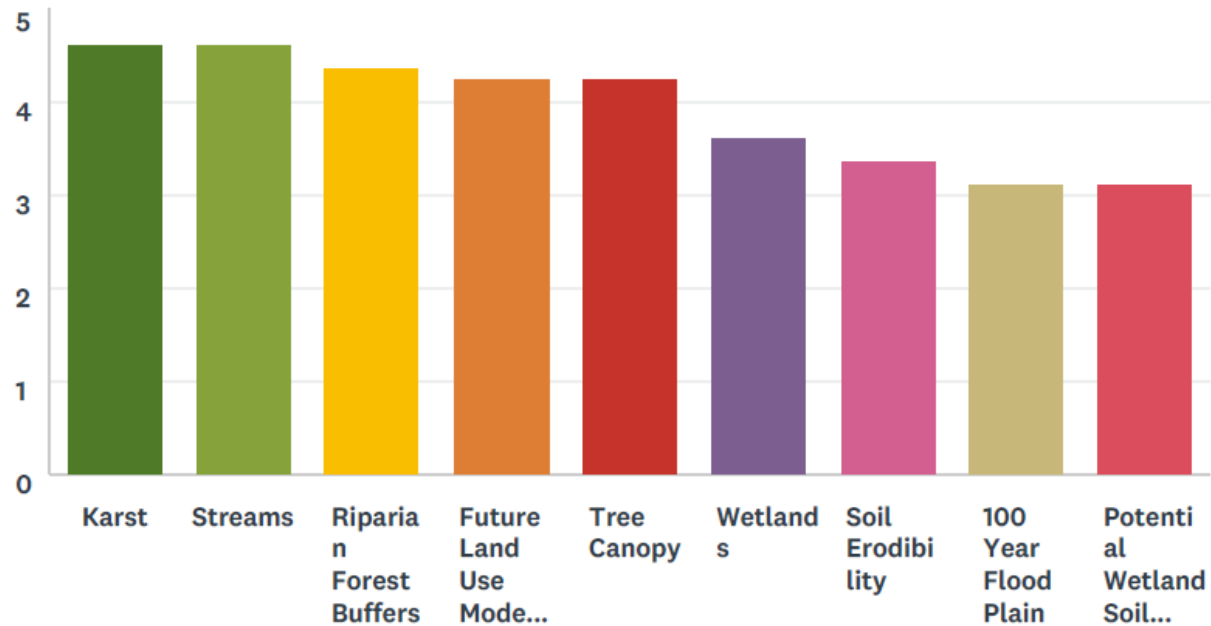
Geographic

Where we want to focus our work

Indicators Survey Results

Q2 Which of these Water Quality Indicators are most important?

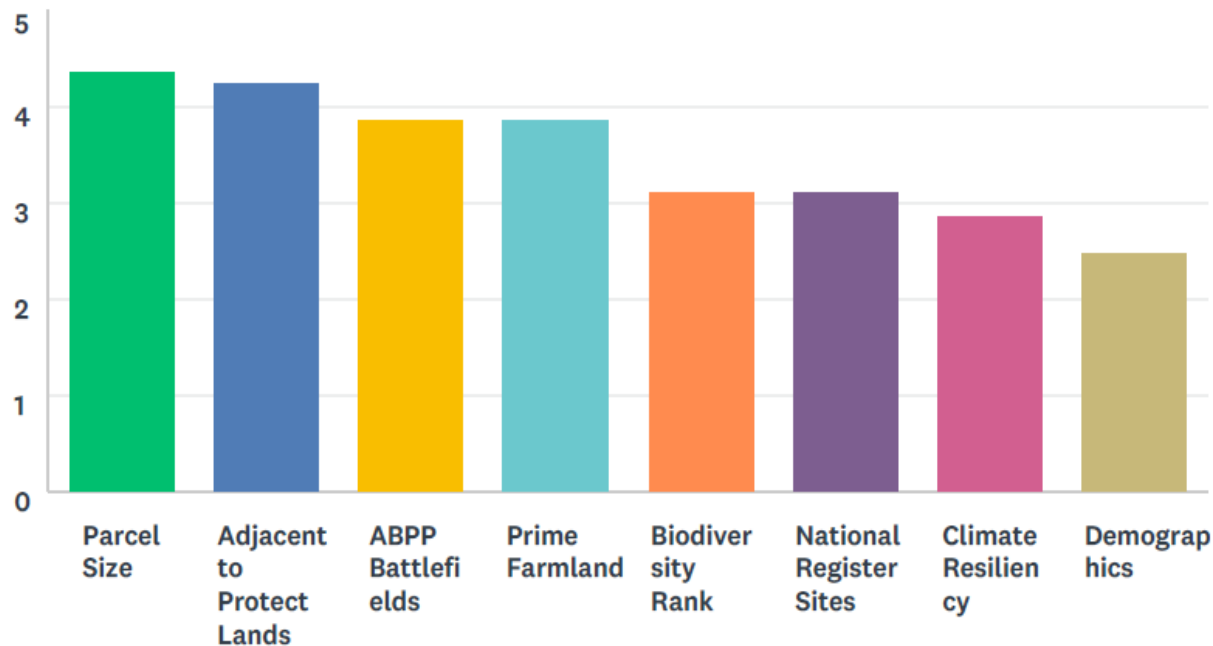
Answered: 8 Skipped: 0



Indicators Survey Results

Q5 Which of these Programmatic Indicators are most important?

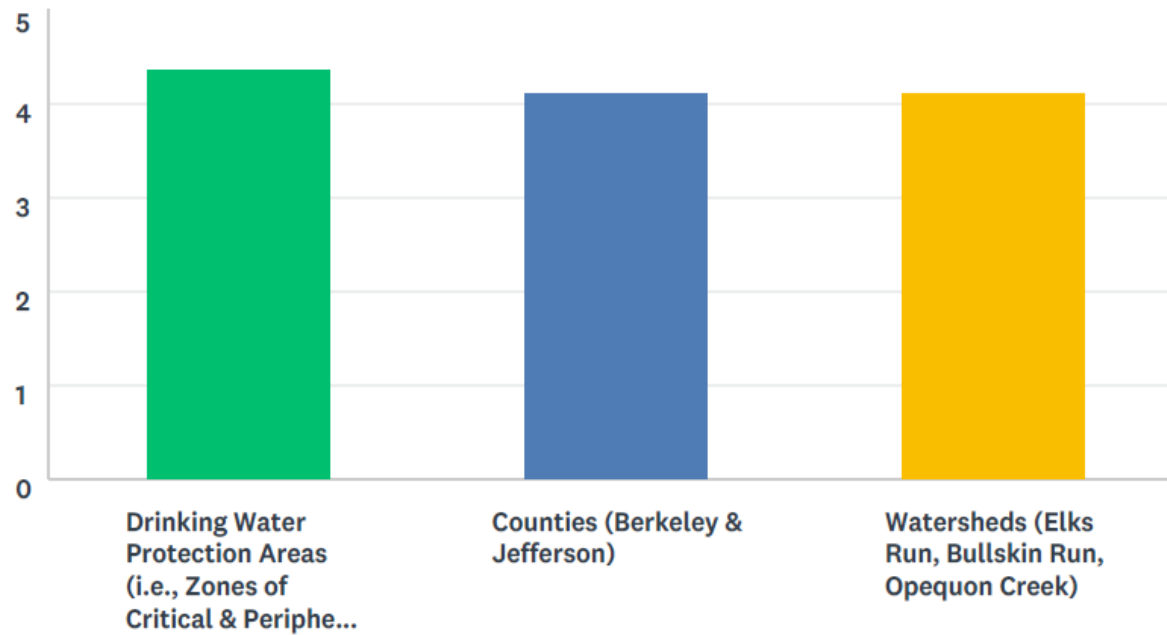
Answered: 8 Skipped: 0



Indicators Survey Results

Q8 Which of these Geographic Indicators are most important?

Answered: 8 Skipped: 0



Prioritization Process (*ALPHA*)

Target parcels >20 acres in size and within Drinking Water Protection Areas (~1,100)

Required Indicators Parcel Size

Source: County Assessors, aggregated by WV Dept of Tax & Revenue, called “Tax Maps – Surface & Mineral Parcels Statewide” ([WVU GIS Clearinghouse](#))

Measurement: Selected if >20 acres. Resulted in ~2,500 parcels.

Justification: Larger parcels are inherently more valuable to conserve than smaller parcels. Local conservation organizations have a significant interest in protecting single, large properties versus multiple smaller properties, partly due to the workload associated with annual monitoring upon easement closing. Parcels over 20 acres are preferred.

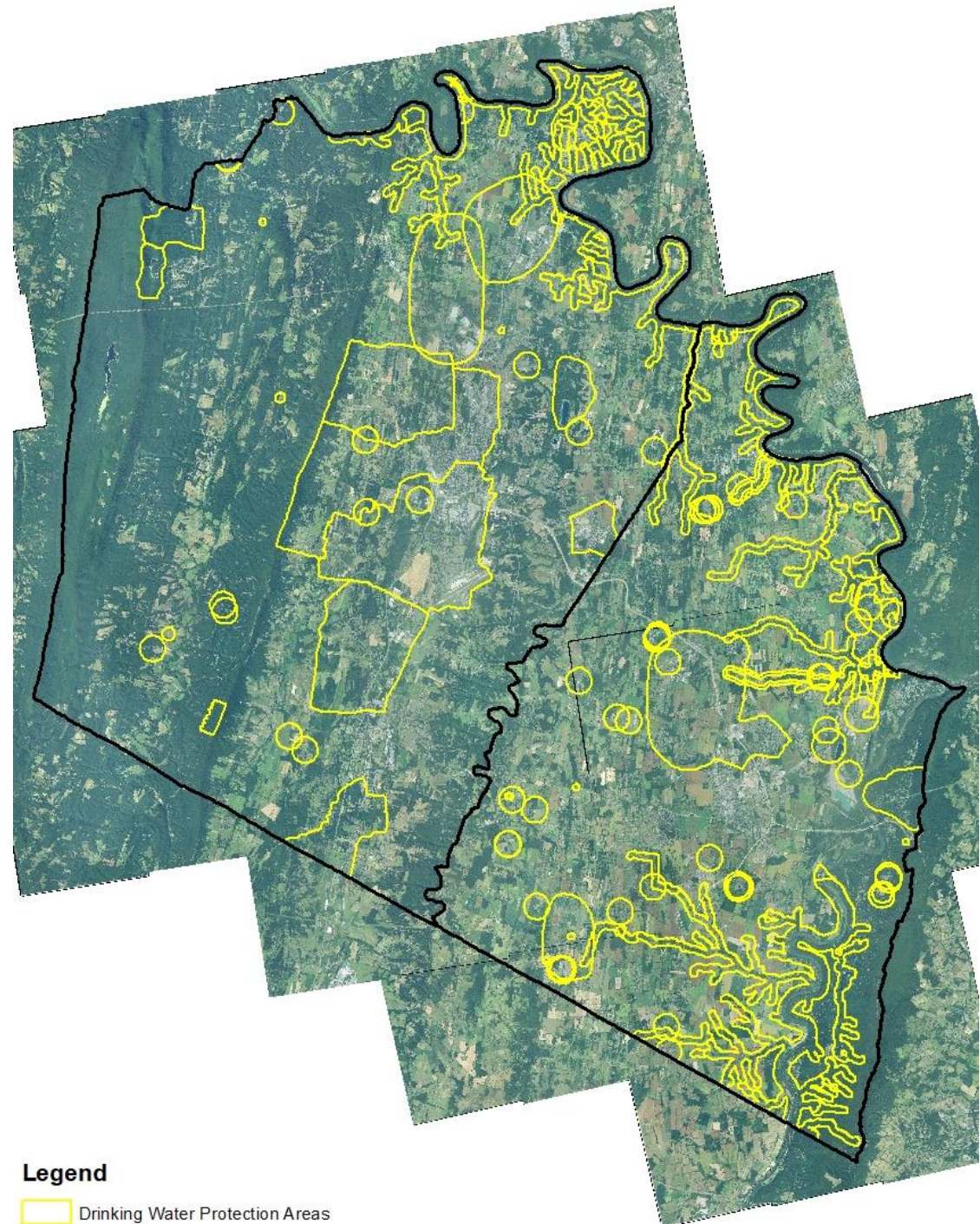


Required Indicators Drinking Water Protection Areas

Source: Chesapeake Conservancy

Measurement: Parcel selected if they
Intersect with Drinking Water
Protection Areas

Justification: Protecting land within
these drinking water protection areas
(also known as “Zones of Critical &
Peripheral Concern”) will have the
most direct impact on protecting
water quality. It also will help with
focusing our outreach efforts in the
areas where we’ll have the biggest
impact on water quality.

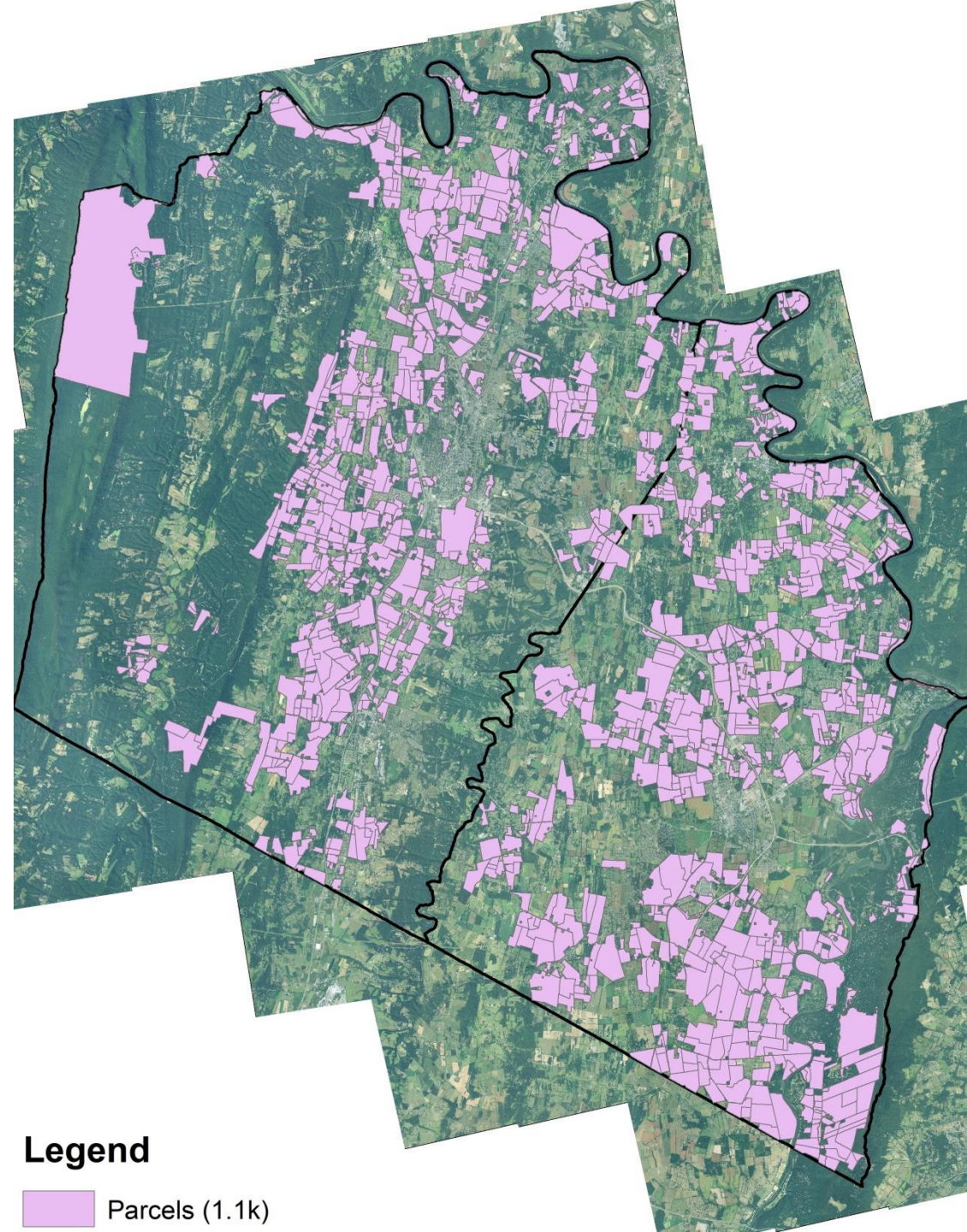


Targeted Parcels

Source: County Assessors, aggregated by WV Dept of Tax & Revenue, called “Tax Maps – Surface & Mineral Parcels Statewide” ([WVU GIS Clearinghouse](#))

Measurement: Parcels within Jefferson & Berkeley Counties that are >20 acres in size and intersect Drinking Water Protection Areas

Justification: Required these indicators ensures that we are targeting fundable parcels (i.e., >20 acres) which is the minimum threshold for local FPB’s, while also targeting where we can have the greatest impact on drinking water quality (i.e., within Drinking Water Protection Areas).



Prioritization Process (*ALPHA*)

Target parcels >20 acres in size and within Drinking Water Protection Areas (~1,100)

Karst
(acres)

Streams
(feet)

Battlefields
(acres)

Proximity to
Protected Lands
(miles)

Priority
Watersheds (acres)

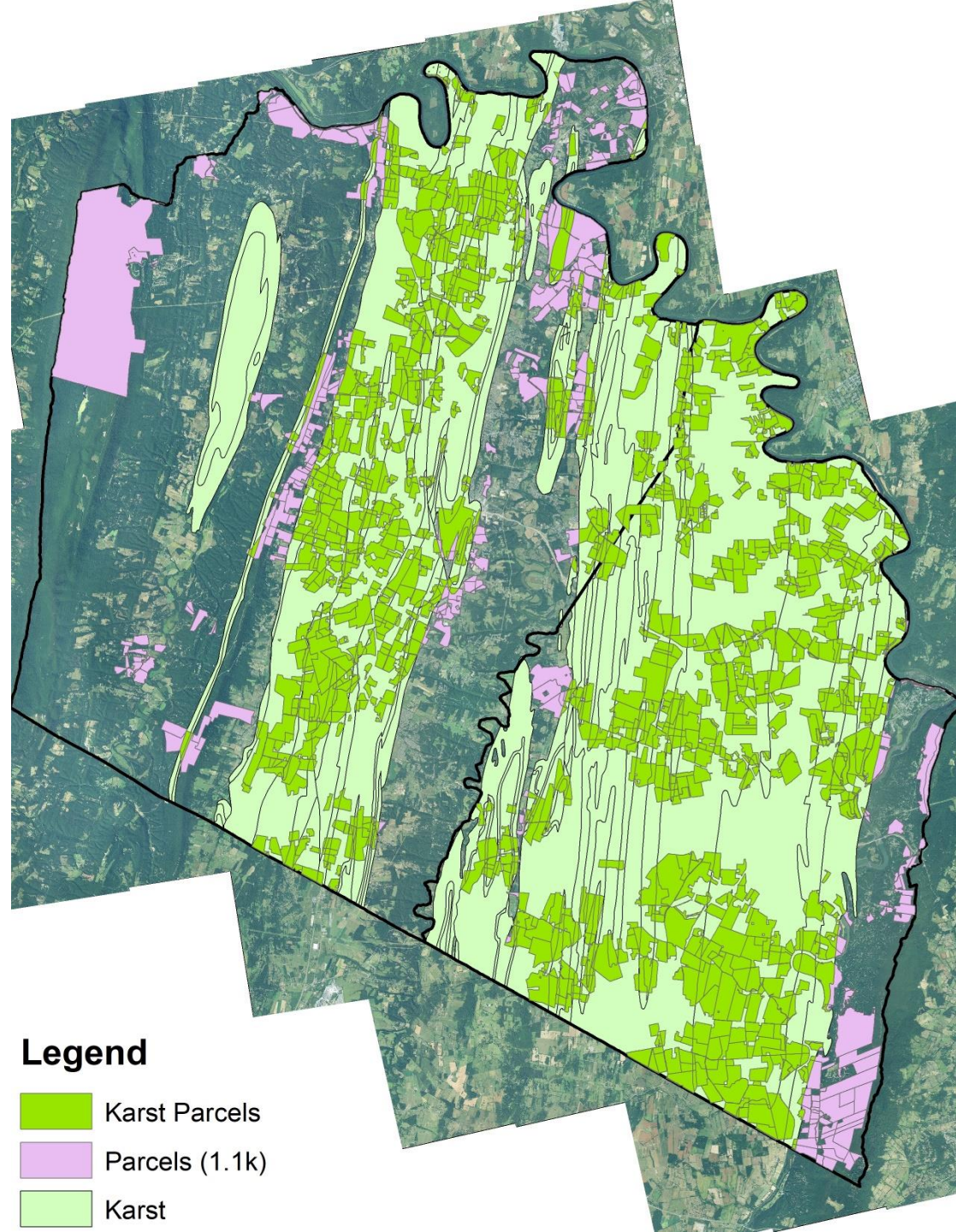
Intersect data
with Parcels,
calculate
measurement,
Join back with
Parcels.

Water Quality Indicators Karst

Source: Karst in the US: A Digital Map
Compilation and Database (2014)
([USGS](#))

Measurement: Acres of Karst

Justification: Karst lands are valuable to protect because of the impact development/land use changes on karst have on water quality. Karst lands are more prone to infiltration of pollutants into groundwater and they host fragile ecosystems that serve as critical habitat for unique wildlife. ([The scientific & socio-economic importance of karst and caves and their vulnerability](#)).

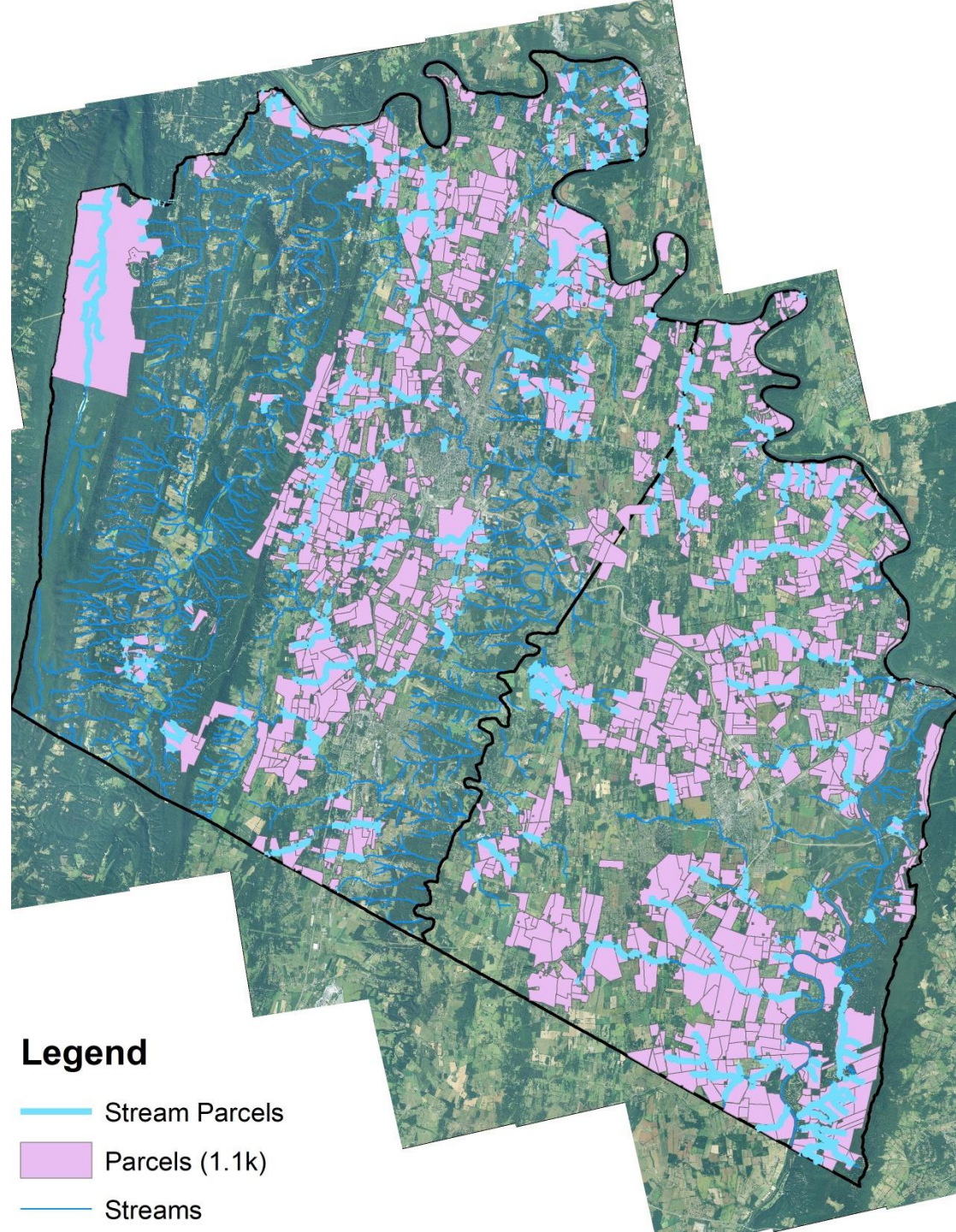


Water Quality Indicators Streams

Source: 2016 WV 303(d) List ([WV-DEP](#))
and National Hydrography Dataset
2018 ([WVU GIS Clearinghouse](#))

Measurement: Linear feet of stream

Justification: Land and water are inextricably linked. Streams, and in particular impaired streams, are valuable for land conservation. Protecting lands along streams help protect water quality by preventing high-intensity land uses and their associated pollutant loads from directly encroaching on stream corridors. ([Chesapeake Bay Land & Water Initiative](#))



Legend

— Stream Parcels

■ Parcels (1.1k)

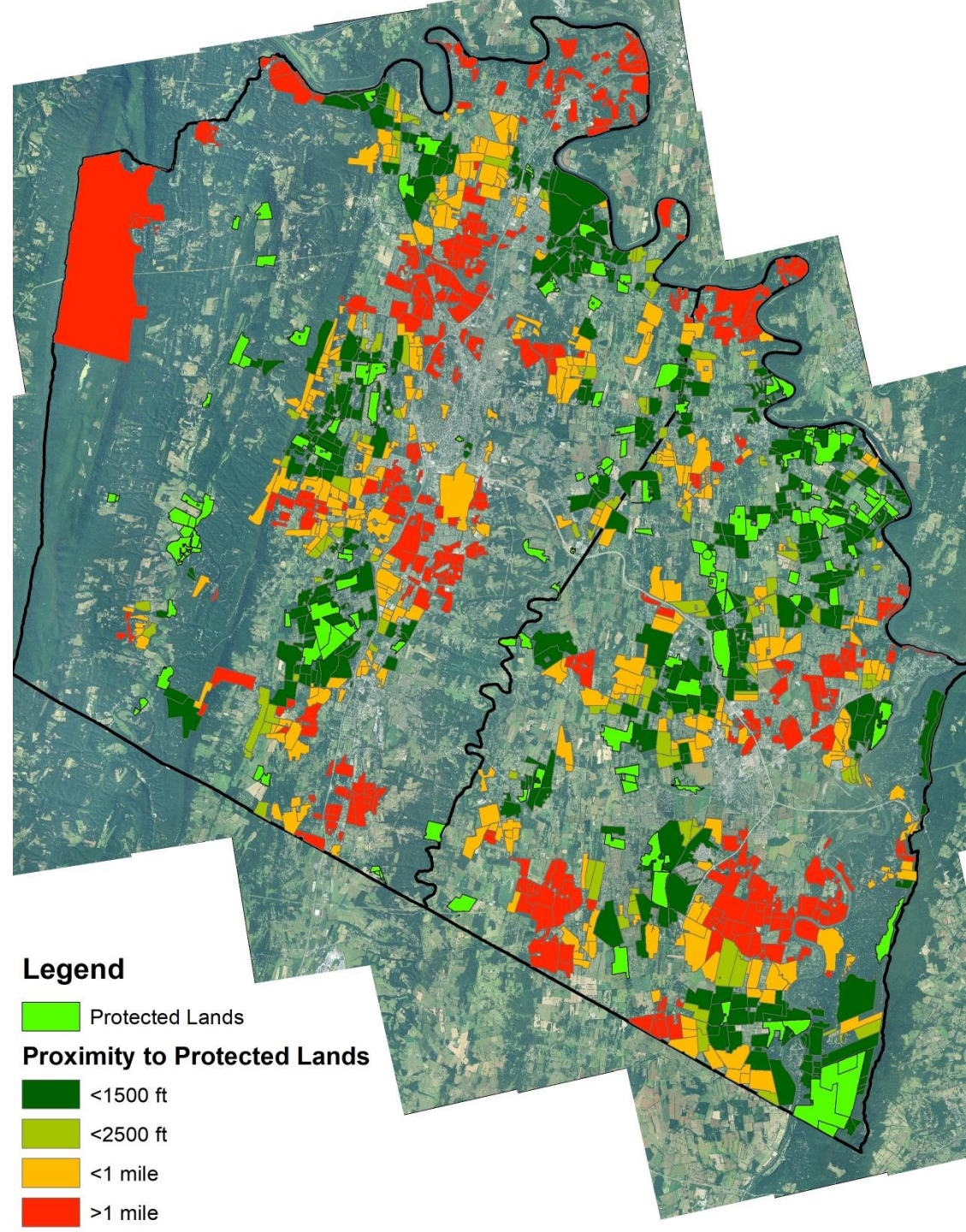
— Streams

Programmatic Indicators Adjacent to Protected Lands

Source: Jefferson & Berkeley County Farmland Protection Boards. WV Rivers analysis

Measurement: Distance (miles) to protected lands

Justification: Landowners adjacent to existing conserved properties may be [more willing](#) to learn about opportunities to protect their land. Clusters of protected lands offer more benefits than individual properties conserved but not adjacent to each other.

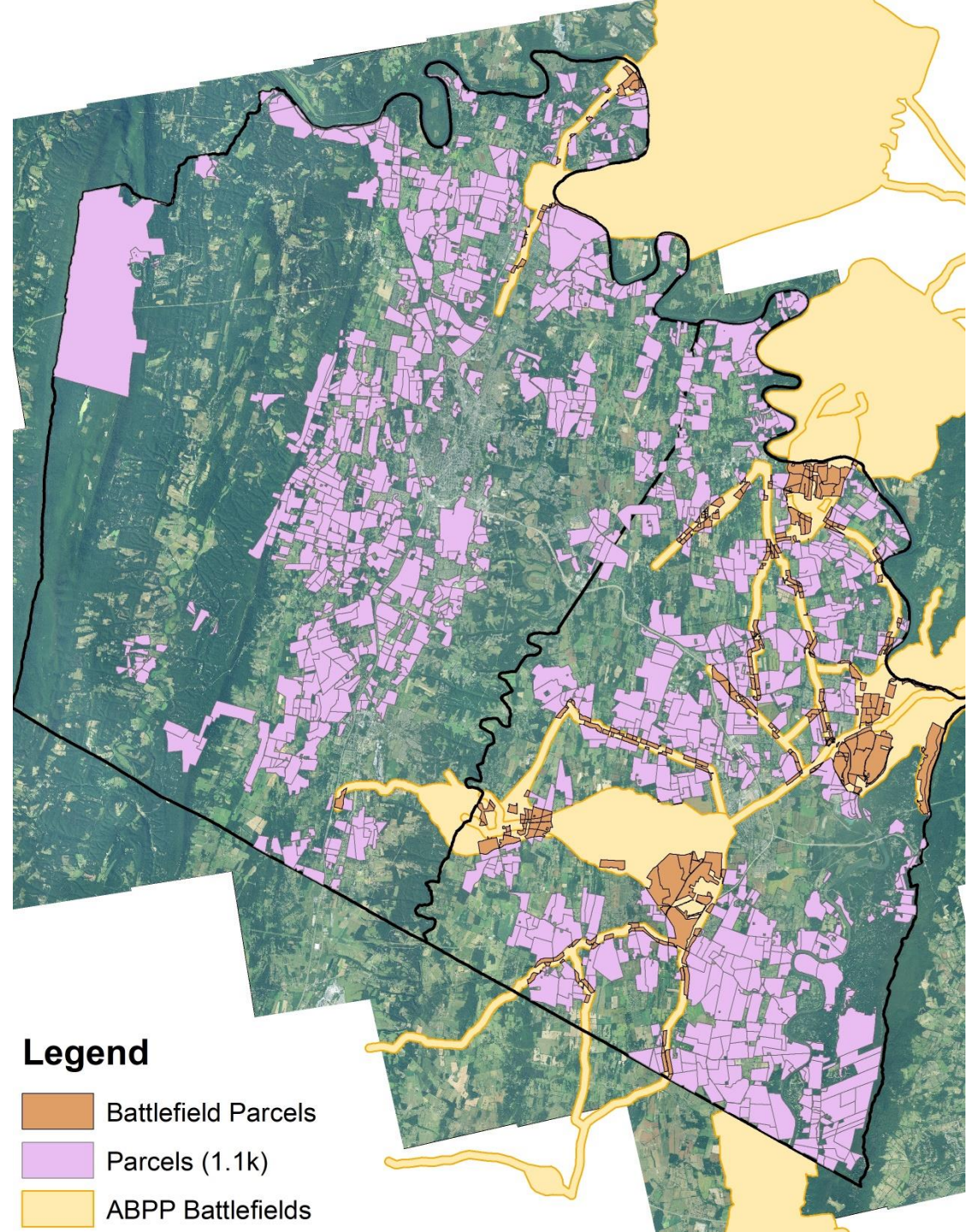


Programmatic Indicators ABPP Battlefields

Source: American Battlefield Protection Program ([National Park Service](#))

Measurement: Acres of Battlefields

Justification: The National Park Service, through the ABPP, offers [Battlefield Land Acquisition Grants](#). “This grant program allows for the permanent protection of historic battlefield lands through fee simple acquisition or through the purchase of an interest in the land through a preservation covenant. State or local government entities are eligible to apply, and nonprofits may act as subrecipients of grant funds. The grants require a dollar-for-dollar non-Federal match.”

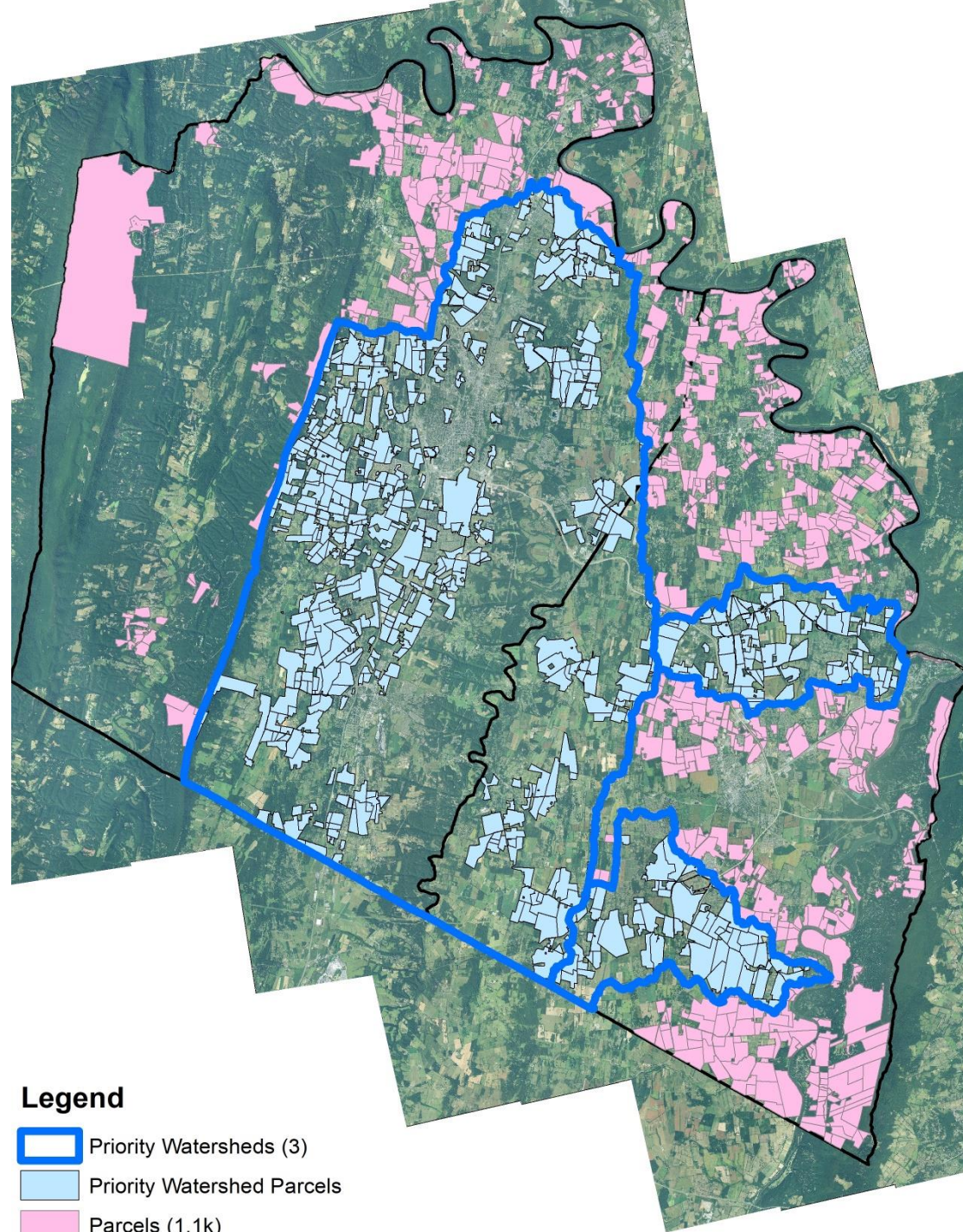


Geographic Indicators Watersheds

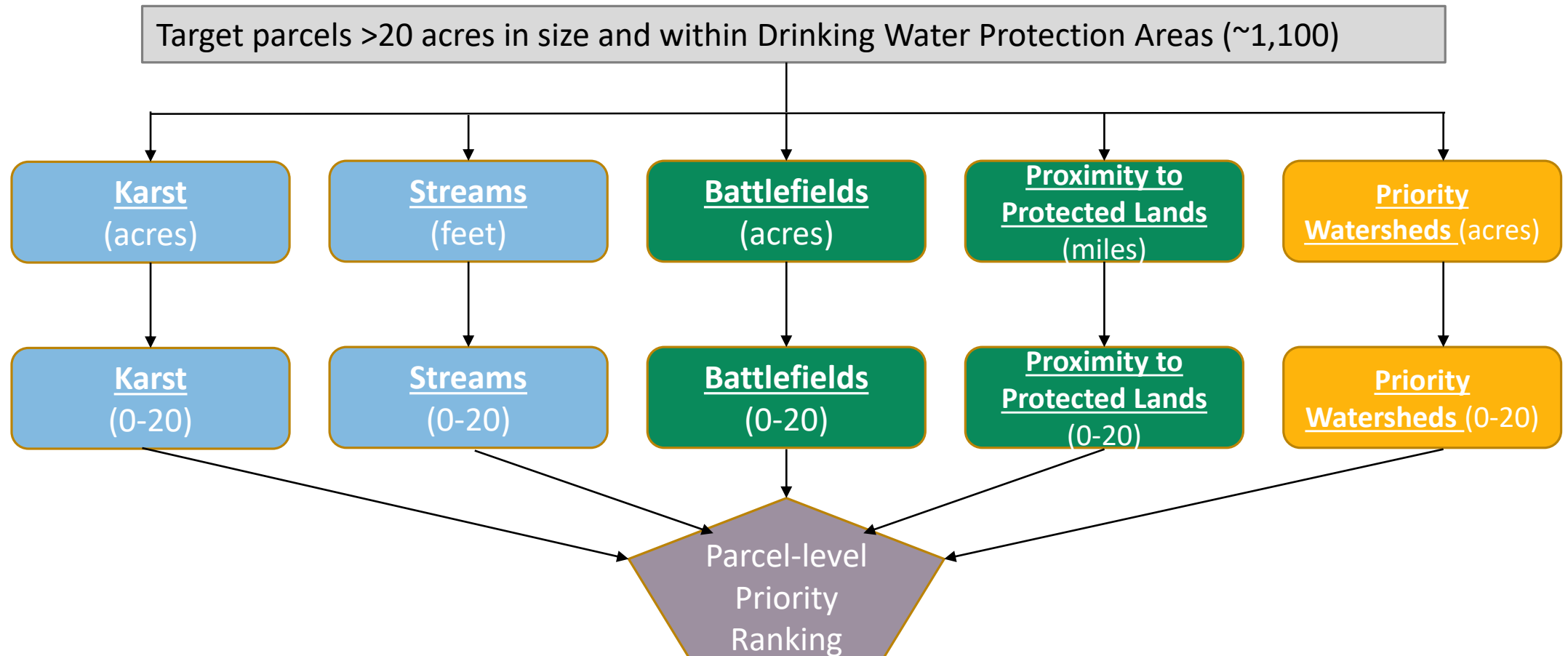
Source: National Hydrography Dataset 2018 ([WVU GIS Clearinghouse](#))

Measurement: Acres within priority watershed

Justification: We are focusing on these three priority watersheds will protect water quality for all five municipalities in Jefferson County (Opequon → Shepherdstown, Elks Run → Harpers Ferry & Bolivar, and Bullskin Run → Charles Town & Ranson). Opequon and Bullskin Run flow downstream to the municipalities, whereas the Elks Run is the source of drinking water for Harpers Ferry & Bolivar.

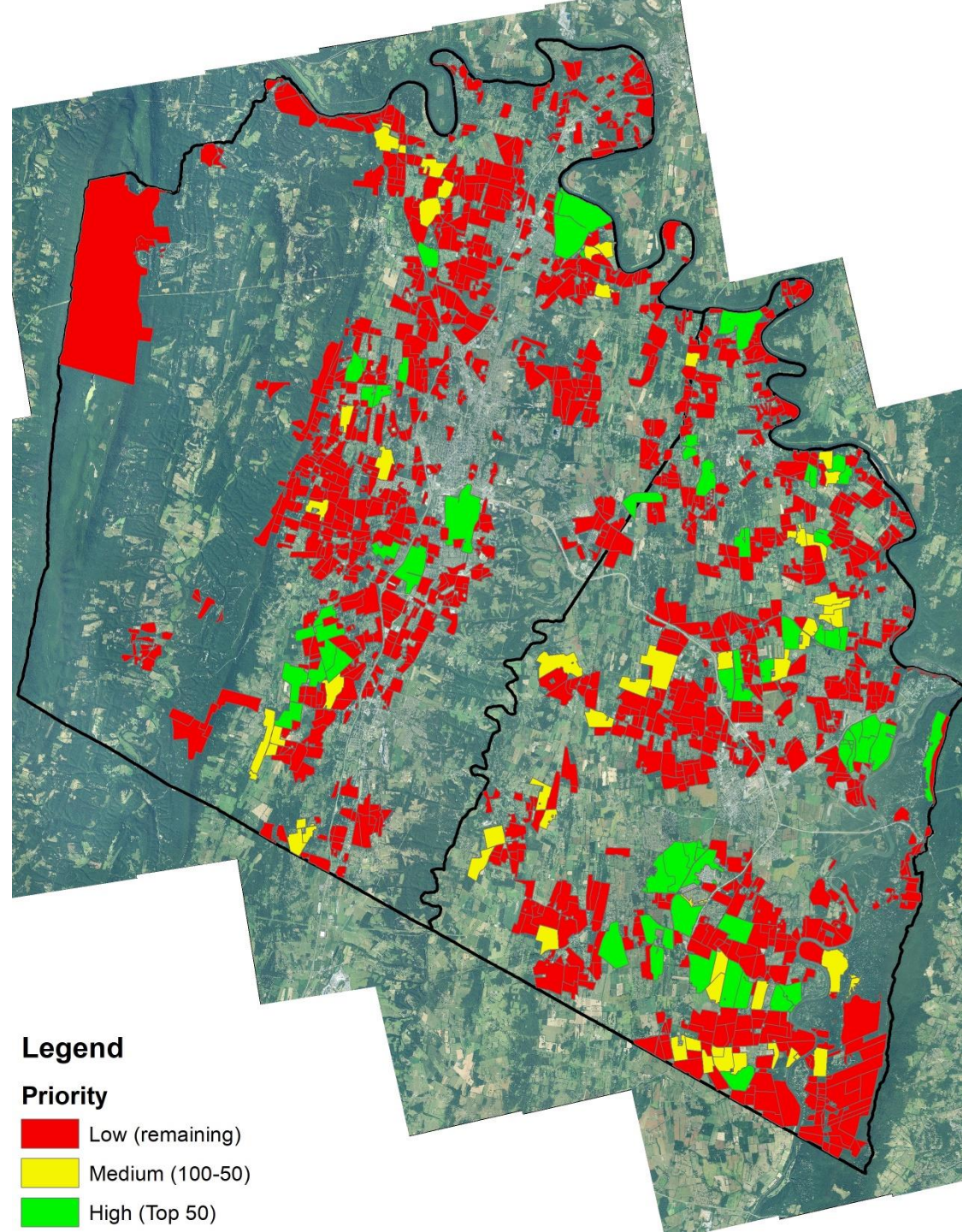


Prioritization Process (*ALPHA*)



Results & Next Steps

- Continue to refine process
 - Assess accuracy of process
 - Additional indicators
 - Modify process
- Begin planning for direct landowner outreach





WEST VIRGINIA RIVERS

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