



Connecting People, Money, and Fish

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Trout Unlimited in West Virginia

- TU in WV has a unique scope of work compared to the rest of the TU nationwide
 - PARTNERS, specifically with NRCS
- Focus on implementation of Ag BMPs
- Leverage USDA funds with other sources



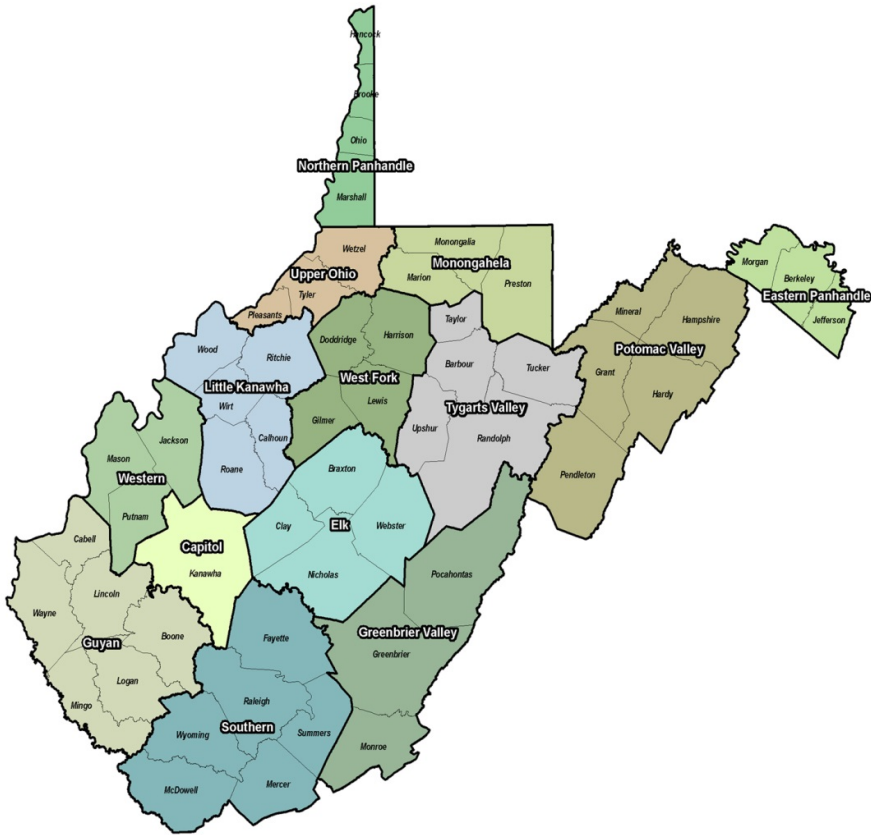
Priority Waters in WV

1. Potomac
2. Greenbrier
3. Gauley and Elk
4. Tug Fork and Upper
Guyandotte





Outreach Strategies



Map from WV Conservation Agency

- Knowing your audience
- Fully understand the topic (or at least have some one who does)
- Use local resources
- What's Worked vs. What Didn't?

Scan to find your local district office



Specific BMPs that TU Utilizes



- Stream Exclusion Fence
- Alternate Water Systems
- Tree Establishment
- Streambank Protections
- Channel Bed Stabilization
- Stream Habitat Enhancement*
- Aquatic Organism Passage*

Other Ag BMPs That Can Reduce FC

- Nutrient Management Plans
- Manure/Liter Facilities
- Covered Feeding Lots
- Cover Crops
- Prescribed Grazing Plans
- And certainly MORE...

*These are likely not projects suited for watershed groups



Alternate Water Systems

- Most of the time watering systems is the first practice we install
- We have installed many types of troughs, like concrete, tire, and Ritchie
- The water source is usually a developed spring, well, or other sources
- Both CREP and EQIP can pay for this



Stream Exclusion Fencing



- Mainly two programs (CREP or EQIP)
 - CREP requires 35-foot buffer on both sides whereas EQIP does not have a minimum
 - CREP is a 10- or 15-year contract that pays the landowner a “rental” fee per acre for each year
- High tensile electric fence, unless otherwise needed, with treated posts

Tree Establishment



- Work with WV Division of Forestry
 - Timing
 - Site Prep
- Select species that are appropriate
 - Landowner Input*
- Install protections
 - Tube
 - Stake
 - Mat/Mulch
 - Bird Nets
- Survival rates and approx. tree cover requirements

Streambank and Channel Bed Protections

- Utilize in-house stream engineers for site visit reports and designs
- Only available through EQIP
- Designs include:
 - J-hooks
 - Rock vanes
 - Rip/rap
 - Root wads
 - Bioengineering
 - And more depending on situations



<https://cbtrust.org/wp-content/uploads/Cross-Vane-Fact-Sheet.pdf>

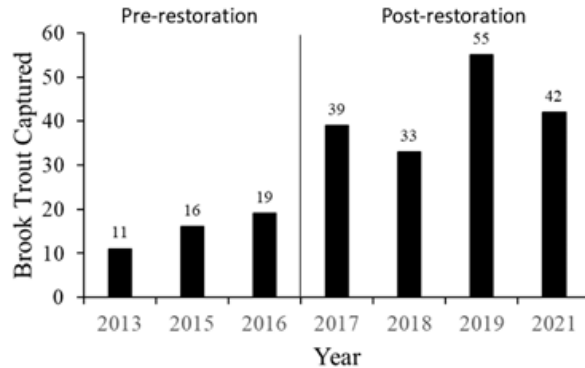
Money, Money, Money

- How TU makes it happen?
- Where to look for money?
- Connecting funders with the specific projects?
- Connecting landowners with the funding sources?
- Match, Match, Match



Success Stories

Raw count data



Length data

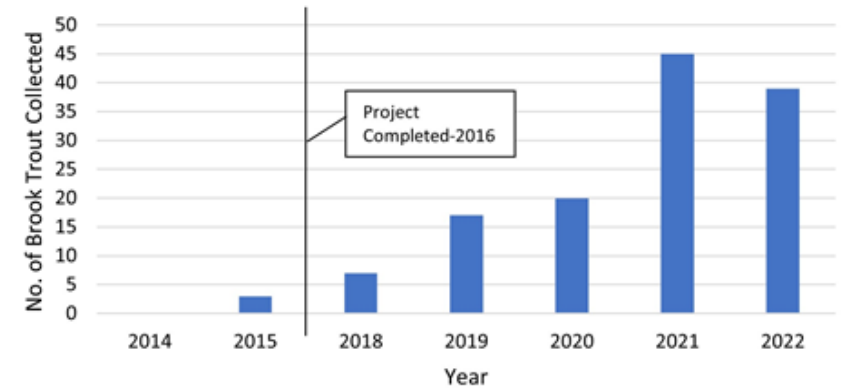
Pre restoration: Max length = 241 mm (95% CI = 223 – 260)

Post restoration: Max length = 270 mm (95% CI = 252 – 287)

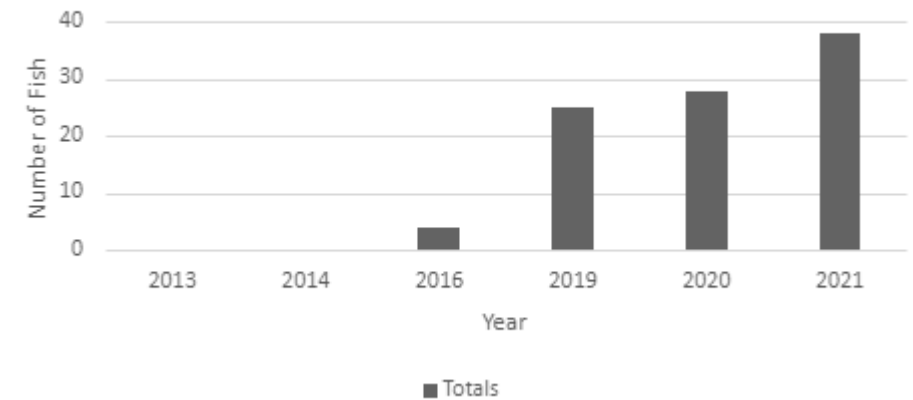
- Difference may not have been statistically different, but the maximum length possible in the population appears to increase. Increased length is highly correlated with increased fitness in salmonids (* Citations available if you decide to keep this)

Trend analysis methods: Population growth rates were estimated by backpack electrofishing count data to a linear regression model in Program R (R Core Team 2021). The independent variable within the model was the sample year, and the dependent variable was the log_e transformed Brook Trout data (i.e., count or CPUE) (Gerrodette 1987; Maxell 1999). When constructed in this manner, the slope of the model is equal to the intrinsic rate of change for the population (r) which can be exponentiated to estimate λ . Ninety-five percent confidence intervals (CIs) were also calculated for λ using the error surrounding the estimate of λ from the linear regression (i.e., 95% CI = $1.96 \times SE$). Estimates of λ greater than 1.00 with confidence intervals that do not overlap 1.00 indicate the population experienced growth over the period of interest.

Brook Trout Abundance in Reed Spring
2014-2022

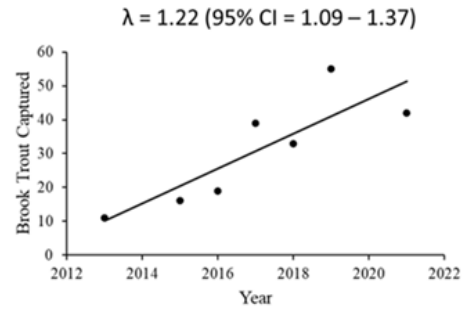


Total Number of Fish by Year- Jackthorn

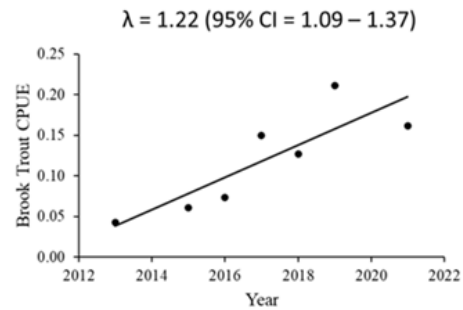


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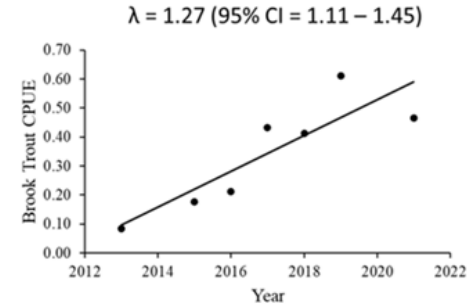
Trend raw count



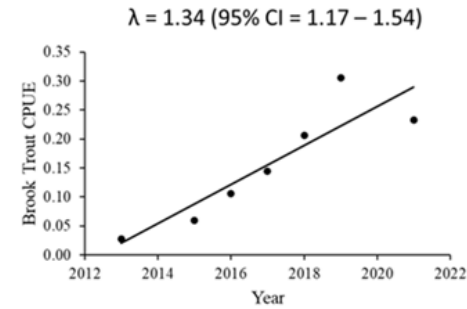
Trend CPUE (Brook Trout Count/distance)



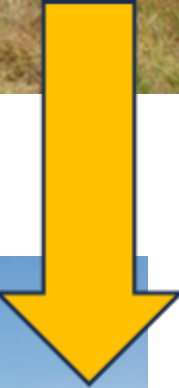
Trend CPUE (Brook Trout Count/fishing time)



Trend CPUE (Brook Trout Count/fishing time*number of shockers)



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