

Finished and Un-finished Business in Stream Restoration



April 6, 2021

Bill Stack, P.E., Life Coach
Center for Watershed Protection

CENTER FOR
WATERSHED
PROTECTION

Stream Restoration Controversy

"I am not sure what it will take to make these projects part of an integrated watershed plan to provide functional lift beyond the sediment and nutrient credits. Perhaps this will come after we spend billions of dollars on these projects and the taxpayers ask "Why can't I catch fish in this stream?"



Why can't I catch fish in this stream

1. Biological impairments are identified through Biological Stressor Identification Studies.
2. Sediment is one of the key stressors that is addressed through the TMDL Process.
3. 4c impairment categories are the critical non-regulated impairments
 - a) (e.g, channelization, channel alteration, poor epifaunal substrate, etc. are classified as "non-pollutant stressors")
4. Stream restoration must target as many of the 4c stressor's as possible.

Stressors tied to the watershed could take years to eliminate (or may never be eliminated)

- Identify realistic goals
- Stream restoration is often the most immediate course of action
- Urban Reference Index (best of the worse)?



Research Needs for Stream Restoration

(from MWMC Stream Restoration Subcommittee)

- How much monitoring do we need (e.g., Power Analysis)?
- Stream, wetland, and riparian system monitoring
- Comprehensive review of stream science (STAC Workshop)
 - Including forensic analysis of successes and failures
- Research on hydromodification and climate change
 - Watershed vs. stream impairments (why isn't bio responding?)
- Clearinghouse for information exchange
- Are regulations adequate?

Ongoing Research to Improve Protocols

- Regional Bancs curves
- Alternatives to BANCs (e.g., Lidar Differencing)
- Monitoring guidance (e.g., how many bank pins, cross-sections?)
- Validation monitoring for Protocol 2
- Regional regression curves for Protocol 3
- Red face analysis of Protocol 5