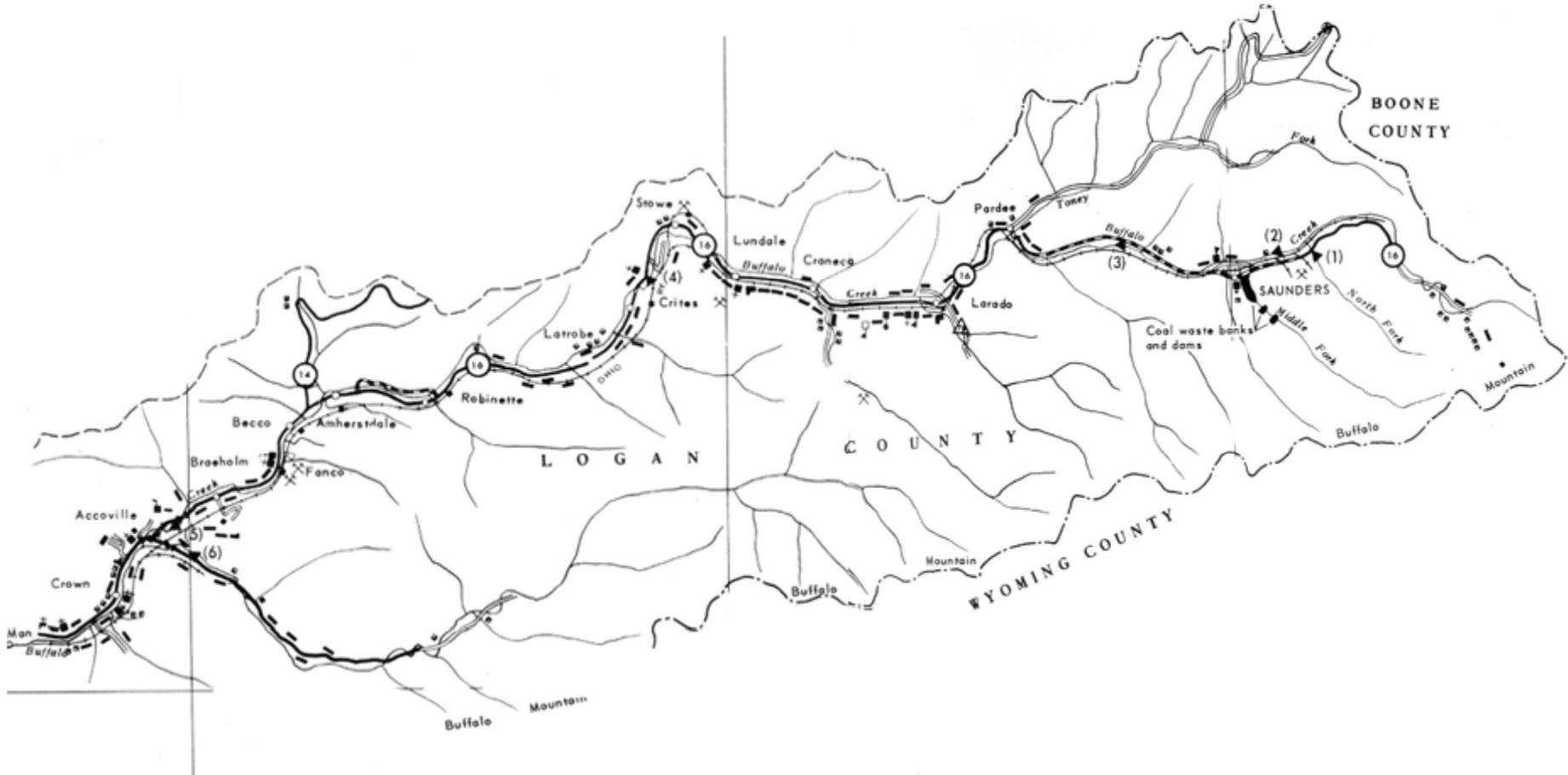




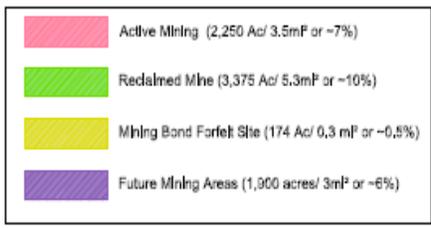
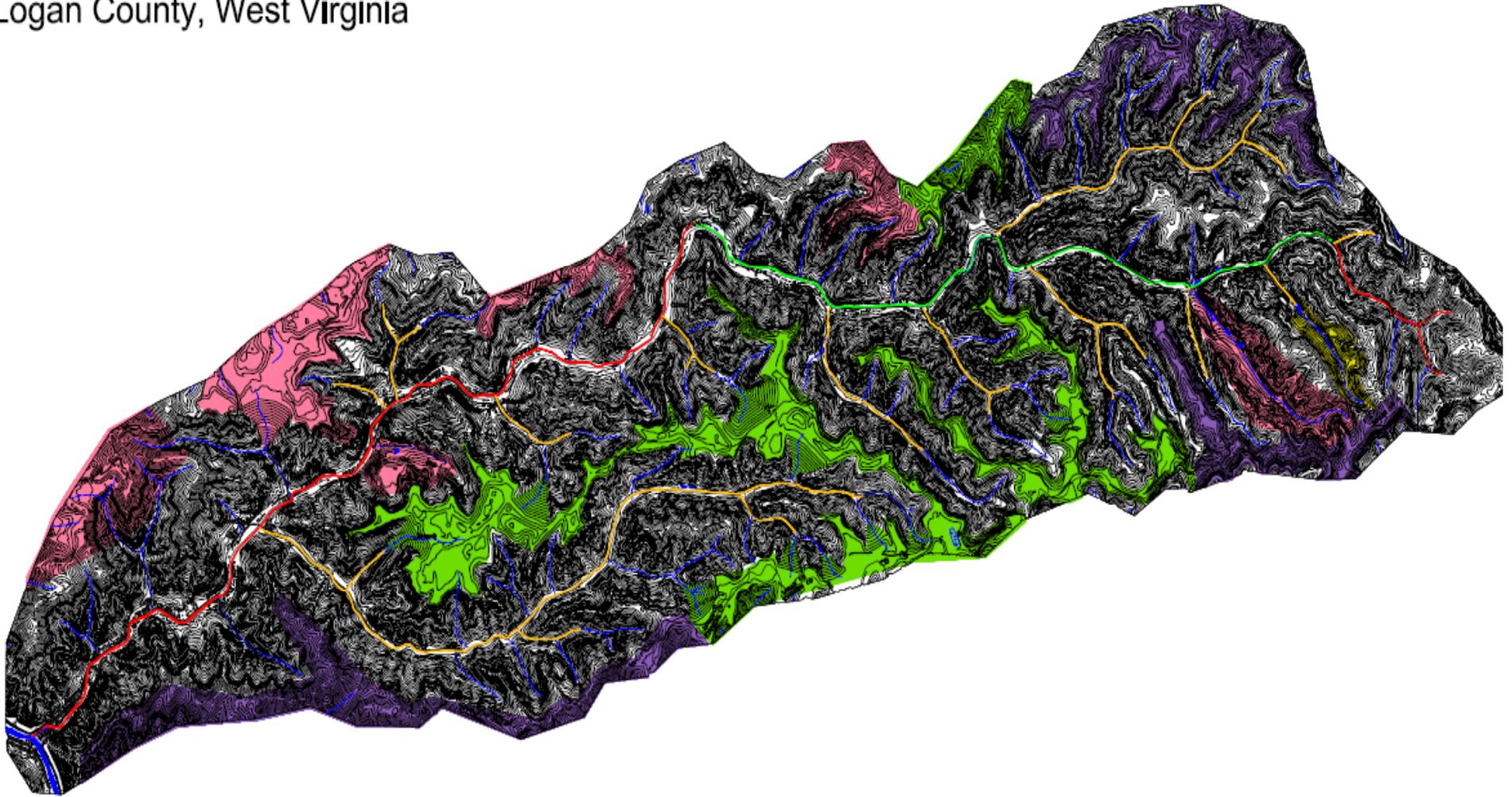
Mountain State Mitigation Credits Company (MSMCC)

Buffalo Creek Bank Sites



Buffalo Creek Watershed Logan County, West Virginia

SCALE 1" = 5000'



Completed Restoration Plan

Plans awaiting approval		
Site name	Location	Approx. Acre Feet
Lower	Man to Man	30,000
Upper 2B-1	Restoration and Buffer Strip	2,000
Upper 2B-2	Creek	3,000
Upper 2B-3	Below Forks	2,000

2009 Restoration Plans

Proposed Plans		
Site name	Location	Approx. Acre Feet
Upper 2B-1	Stone to Penick	30,000
Upper 2B-2	Below	71
Upper 2B-3	Penick to Cooper-Hague	30,000

Potential Restoration Plans

Potential Future Plans		
Site name	Location	Approx. Acre Feet
Right Fork	Right Fork Middle Creek	30,000
	Right Branch of Right Fork	2,000
	North Branch of Right Fork	2,000
Jordan Fork of Right Fork	Jordan Fork of Right Fork	3,000
	Proctor Fork of Buffalo Creek	7,000
Rocky Fork	Rocky Fork of Buffalo Creek	6,000
Condamint	Condamint Branch of Buffalo Creek	4,000
Eligible	Eligible Branch of Buffalo Creek	16,000
Gully	Gully Branch of Buffalo Creek	6,000
Young Fork	Young Fork of Buffalo Creek	20,000
Wolf	Wolf Branch of Buffalo Creek	11,000
Low and Middle Fork of Buffalo Creek	Low and Middle Fork of Buffalo Creek	16,000
North Fork	North Fork of Buffalo Creek	4,000
Cooper-Hague	Scrambled Fork of Buffalo Creek	1,000

These sites and areas that may be located by Mine #104 and 105.



History of Buffalo Creek

- Mine accidents in 1958 at Lundale killed 6 miners, and in 1968, 3 miners were killed in a mine fire near Lyburn.
- Mine gob dumped into Middle Fork in lowest pond in series starting back in 1957. Second pond added in 1960; third impoundment added in 1968.
- Rain fell continuously for days preceding Feb 26, 1972.
- At 8:00 AM on Feb 26, 1972, the upper dam collapsed, and obliterated the lower 2 impoundments.
- In minutes, approx. 132 Million gallons of black waste water rushed down the BC hollow.
- 125 were dead, 1,100 injured, and > 4,000 left homeless.





Why Buffalo Creek?

- Located within Watershed and HUC Zone (5070101) of current clients.
- Stream needs restoration! Excess sediments, eroded banks, lack of in-stream habitat, lack of riparian, abundance of trash and debris.
- It is also the only stocked trout stream in Logan County.
- Very active Watershed Group exists.



Why Buffalo Creek?

- 33,750 acres total.
- 2,250 acres of Active Mining (7%).
- 3,375 acres of Reclaimed mine lands (10%).
- 174 acres of bond forfeiture sites.





Much of the main reach is wide, flat, & shallow.











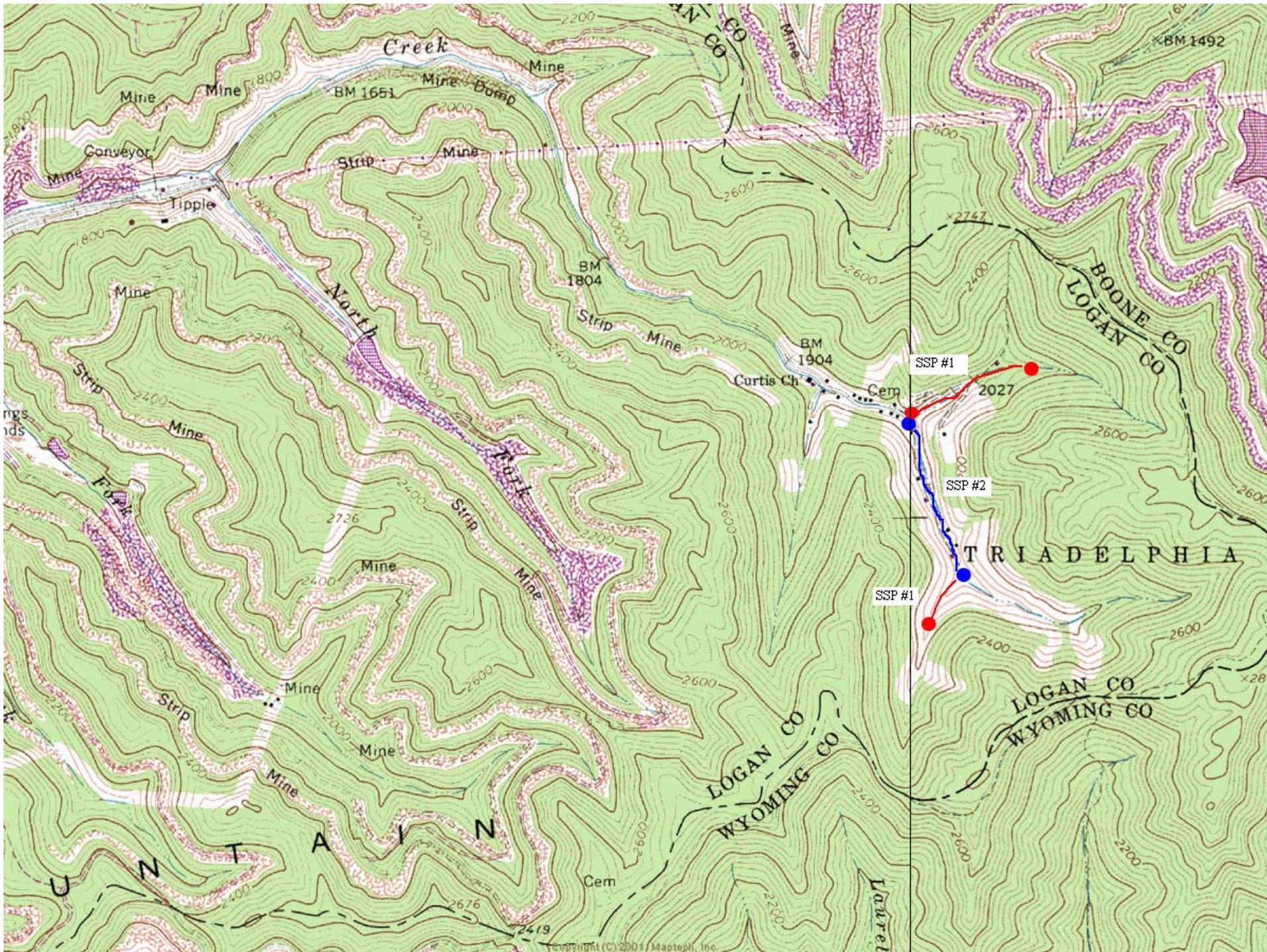
History of MSMCC

- Company started in May 2006.
- Company comprised of well balanced group of aquatic biologists, mining engineers, and heavy equipment operators.
- Initial Prospectus submitted to USACE in June 2006.
- Comments received by IRT and revised Prospectus submitted again in Dec 2006.
- Due to requested “watershed approach” original Site Specific Plan for a full 50,000 linear feet of BC from Man to Stowe submitted in Feb 2007.



History of MSMCC (cont.)

- Single, Upper BC Plan #1 (5,950 lf) submitted to IRT March 2008.
- Single, SS Plan #2 (3,650 lf) submitted to IRT April 2008.
- Single, SS Plan #3 (5,000 lf) submitted to IRT May 2008. (dead plan; conservation easements unattained to-date)
- Public Notice goes out for 3 Plans in June 2009.
- Version 1.0 Valuation Metric released Feb 2010.
- Version 2.0 Valuation Metric released Feb 2011.





Site Specific Plan #1

Location	Linear Feet	HGM Average	RBP Habitat Score (out of 200)	WV-SCI	Cond.	pH	D. O.
2 nd LUT (Sulphur Lick)	2,654	0.50	54	48.8	345	7.38	11.7
3 rd RUT of BC	350	0.73	83	61.9	65	6.60	8.00

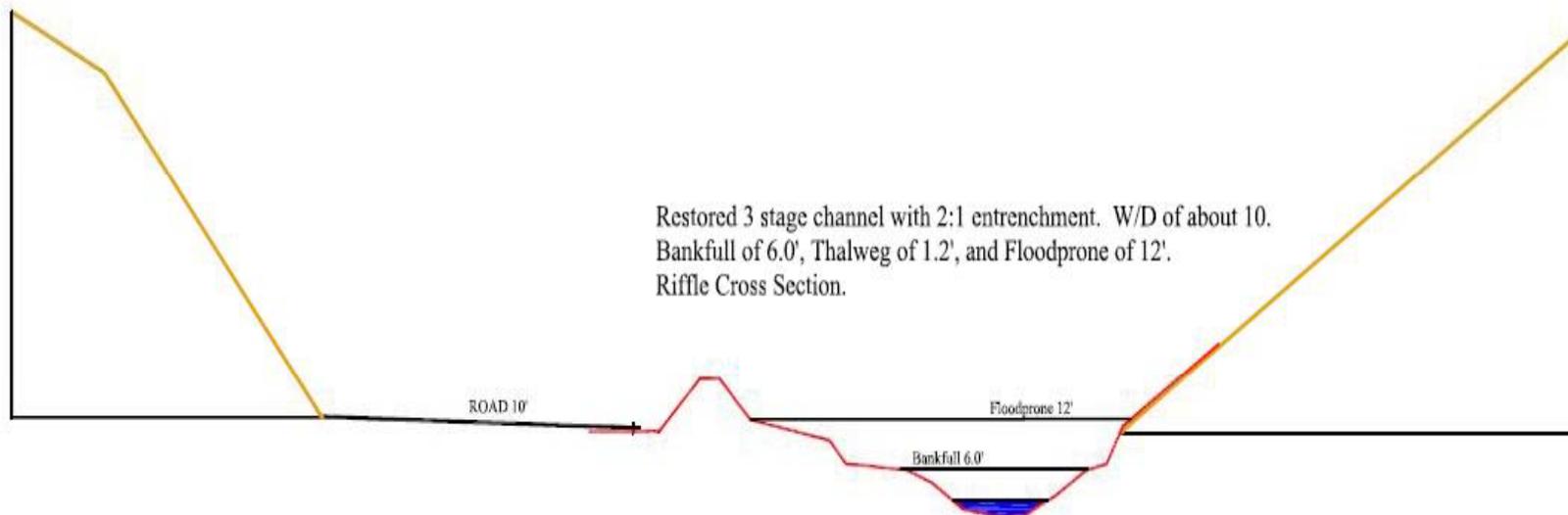
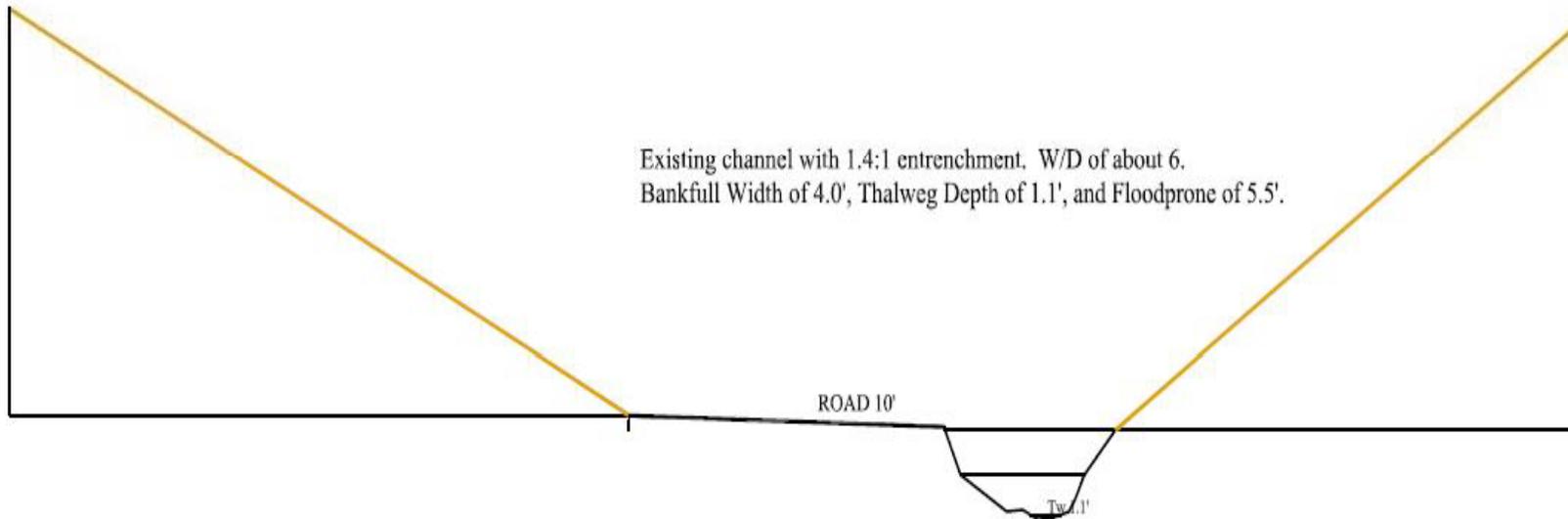
- Low habitat scores, but decent water quality; Yields Impaired to Gray Zone SCI scores.

Sulphur Lick: 2,654 LF; Level III Restoration

	Current	Post (5 Years)	Post (10 Years)	Maturity
HGM-FCI				
Hydrology	0.57	0.94	0.95	1.00
Biogeochemical	0.63	0.86	0.87	1.00
Habitat	0.31	0.76	0.77	1.00
RBP Habitat	54	135	157	172
Conductivity	345	300	250	199
WV-SCI	48.8	60.0	70.0	80.0
Mitigation Unit Yield				2,198



Upper Buffalo Creek - Plan #1, Sulphur Lick (Lower Section)





Site Specific Plan #2

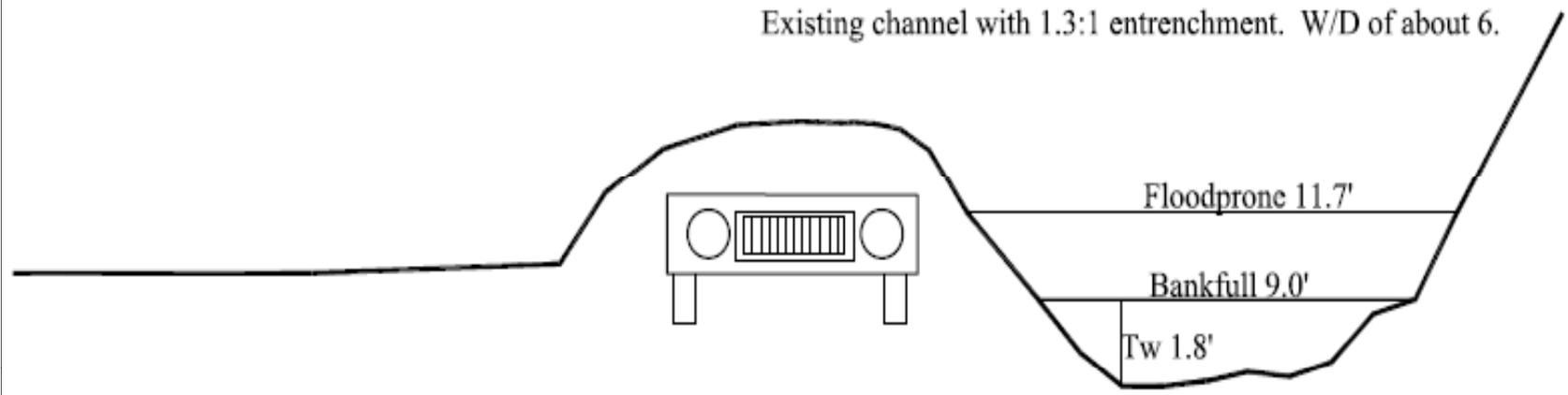
Location	Linear Feet	HGM Average	RBP Habitat (out of 200)	WV-SCI	Cond.	pH	D. O.
IP 1	750	0.58	72	41.1	173	6.7	11.2
IP 2	865	0.59	66	41.1	173	6.7	11.2
IP 3	260	0.0	0	0	0	0	0
IP 4	1,775	N/A	61	41.1	173	6.7	11.2

- Again, Poor habitat scores, but decent water quality; Yields Impaired SCI scores.

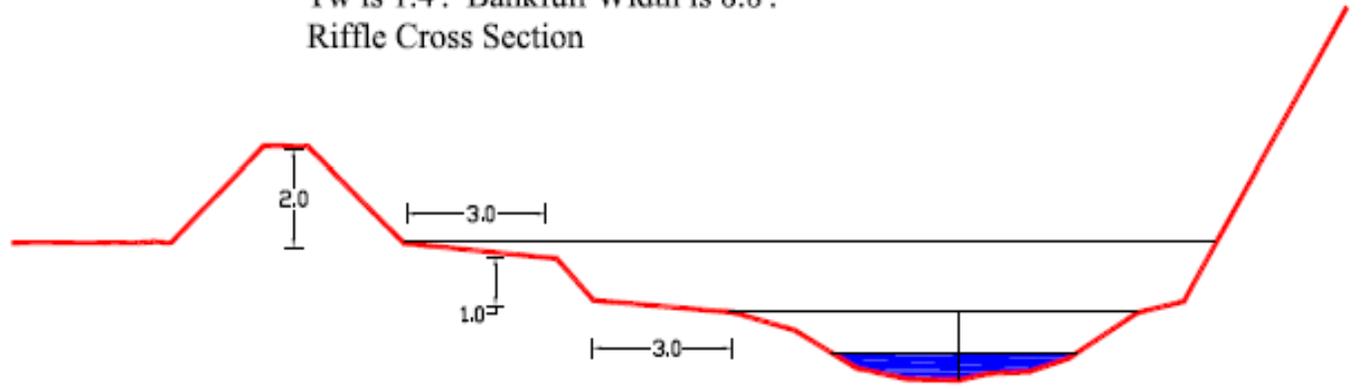
SSP#2; IP #1: 750 LF; Level III Restoration

	Current	Post (5 Years)	Post (10 Years)	Maturity
HGM-FCI				
Hydrology	0.57	0.94	0.95	1.00
Biogeochemical	0.76	0.86	0.87	1.00
Habitat	0.43	0.76	0.77	1.00
RBP Habitat	72	135	159	172
Conductivity	173	173	173	173
WV-SCI	41.1	60.0	70.0	80.0
Mitigation Unit Yield				458

Existing channel with 1.3:1 entrenchment. W/D of about 6.



Restored 3 stage channel with 2:1 entrenchment. W/D of about 12.
Tw is 1.4'. Bankfull Width is 8.8'.
Riffle Cross Section





Credits from SSP#1 & #2

Mitigation Bank Activity	Credit Ratio	Anticipated Date	Credit Available
Pre-construction Release	10 percent	6/15/11	459.87
Grading	10 percent	10/15/11	459.87
Planting	20 percent	10/15/11	919.74
1 st year Monitoring	35 percent	10/15/12	1,609.54
3 rd year Monitoring	15 percent	10/15/14	689.80
5 th year Monitoring	10 percent	10/15/16	459.87
TOTALS			4,598.69



Performance Standards

- Different for each SSP, but generally....
- EPA-RBP Habitat Scores
- HGM, Functional Assessment of High-Gradient Ephemeral & Intermittent Headwater Streams
- WV-SCI benthic score (not a final measure of success, but utilized in the Valuation Metric 2.0)
- Stream & Wetland Valuation Metric 2.0



Major Hurdles:

- Delay in reviews from IRT team (now exactly 3 years since SSP #1 submitted, and still no approved Instrument).
- Conservation Easements (30 of them w/i 3,000 lf)
- Bonding (IRT hesitant to approve a Banking Instrument w/o bond; bonding company hesitant to provide bond w/o Corps permit).
- Changing of methods for calculating credits/debits.



Credit Calculator Headaches

- SSP#1 & SSP#2 initially contained 9,624 lf of restoration and 9,862 lf of preservation. We were expecting approx. 19,456 credits to be available. Acquisition of Preservation Areas fell thru.
- Under SWVM Version 1.0 we would still have obtained 7,332 credits for the restoration of 9,624 lf of stream.
- Under SWVM Version 2.0 we would achieve 4,598 credits for the restoration of 9,624 lf of stream.
- Version 2.0 is currently utilized by the USACE to assess all impacts as well as all forms of mitigation (equal plane for assessments).



Bonding

- MSMCC has secured bonding in the amount of \$1.9 Million for the Upper BC Projects.
- This was for 9,495 total linear feet in the two combined Upper BC Plans
- Payment to bond company of \$80,000 will be due 30 days from the signing of the bond. (i.e. timing is “key”)



Lessons Learned:

- Select potential mitigation sites (first) by number of property owners, and willingness to sign conservation easements. Obtain CEs first, then produce the Restoration Plan.
- Involve the local watershed group(s), if any.
 - They can get the word out to locals
 - Assist with acquisition of Conservation Easements
 - “protectors” of the restoration reaches
 - Assist with monitoring



Future Projects

- The Buffalo Creek watershed will be successfully restored from the headwaters down to establish complete “watershed restoration” that is consistent with the Mitigation Rule.
- This “top down” approach will be utilized until all potential stream areas are restored
- Anticipated linear feet of restoration within the Buffalo Creek watershed could exceed 100,000 feet



Thank You!
Questions?