Crediting BMPs on Extractive

WTWG May 7, 2015

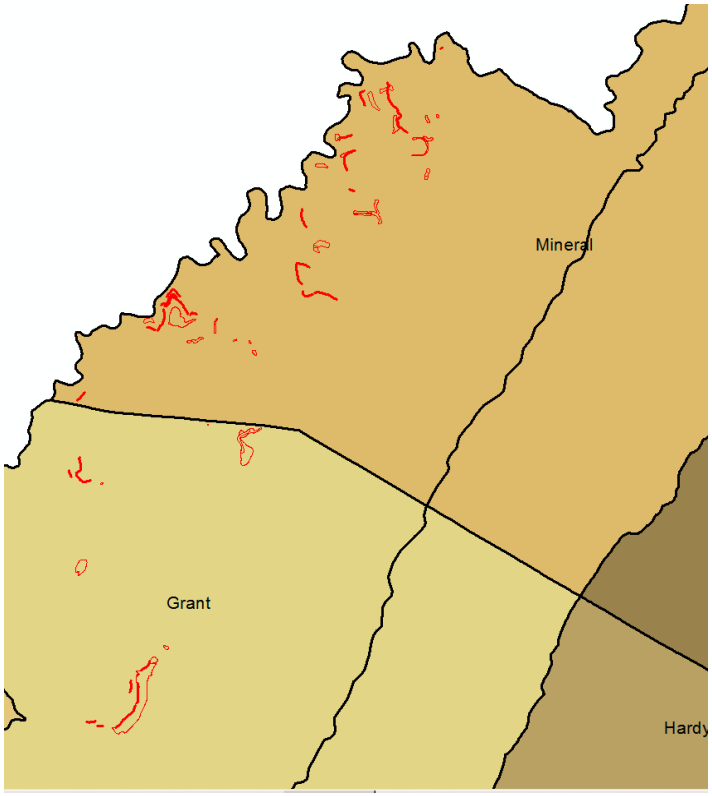
Problems with Extractive

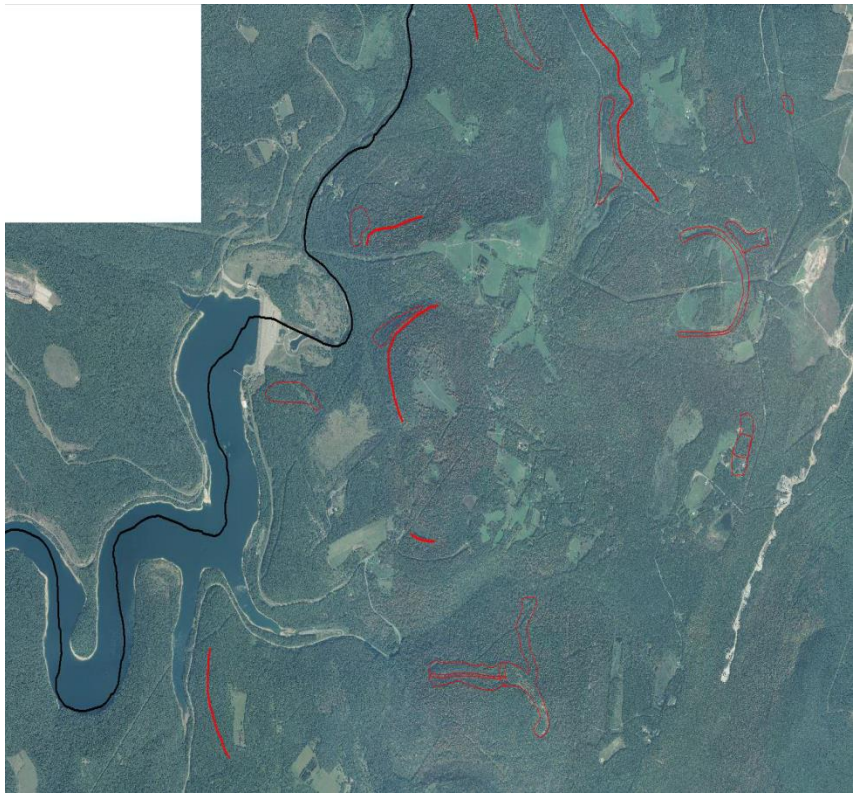
- Only “approved” BMP for extractive is Abandoned Mine Reclamation which is a land use change from extractive to forest.
- Extractive land use not populated with Abandoned Mine Lands; instead permit information for active mining operations

Abandoned Mine Lands (AML)

- AML are mining activities that were on the ground prior to the enactment of the federal Surface Mining Control and Reclamation Act (SMCRA) of 1977. The key date is 8/3/77.
- AML is land disturbance that is approaching 40 years old.
- No responsible party, no permitting

WV AML

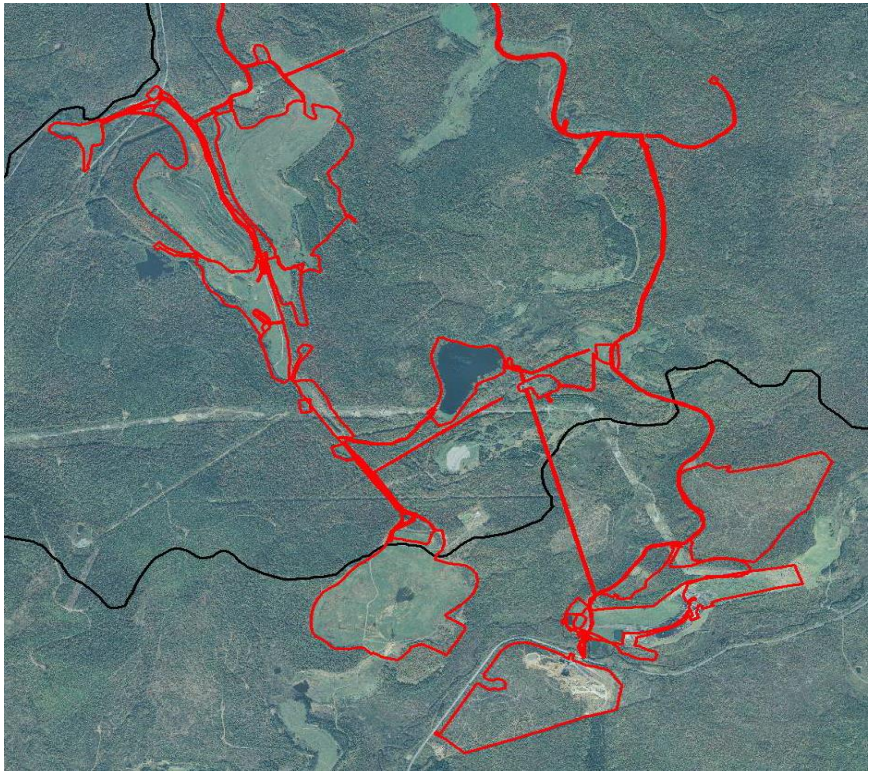




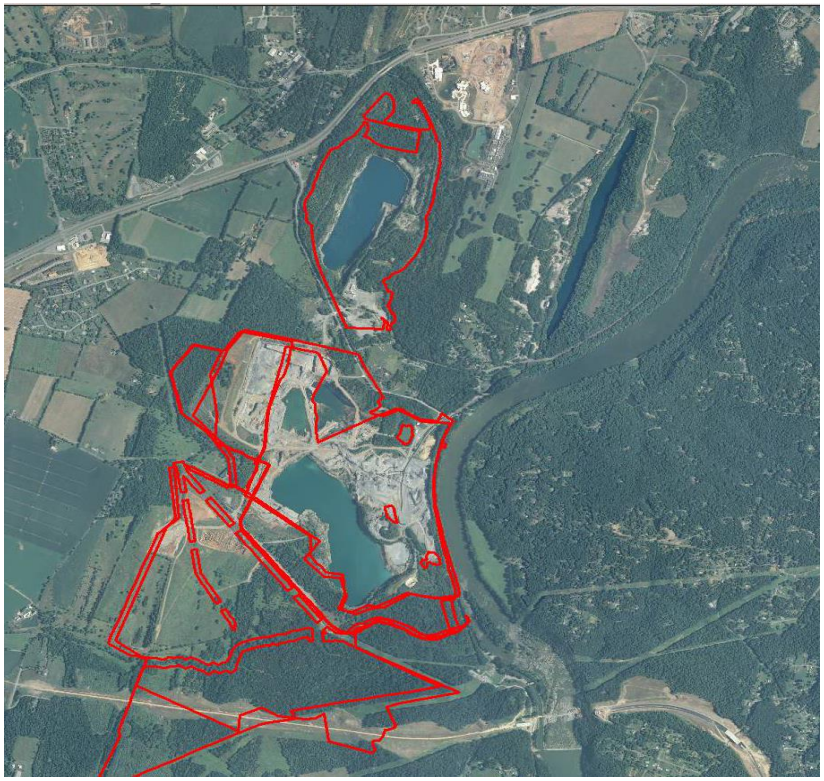
Population of Phase 5 Extractive

- Phase 5 documentation - Section 4.2.7
- WV provided total area polygons for active mining sites. This is different from the “disturbed area” component of total that other jurisdictions provided.
- NY and VA provided point data for “disturbed” components of permitted area
- MD point based total permit area was reduced to disturbed based on regression of VA disturbed and total components.
- PA ?? “Reclaimed or Forfeited Mines in PA 9-29-2009” (point)
- The model documentation incorrectly says WV provided “disturbed” polygons. The provided polygons represent total permit area and we recommended that 1/3 of our permit area should be considered disturbed (transient)
- Disturbed vs Total is important and disturbed moves around

WV Active Mining



Coal



Quarry

P 5.3.2 2010 No Action

Jurisdiction	EXT Area	Average EOS Unit Area Loading			Delivered Loads		
	(acres)	N (#/acre/yr)	P (#/ac/yr)	TSS (tons/ac/yr)	N (#/yr)	P (#/yr)	TSS (tons/yr)
DC	0						
DE	394						
WV	14,384	29	5.5	2.0	76,000	17,000	9,000
VA	35,704	17	4.3	1.7	303,000	97,000	49,000
MD	16,006	22	4.4	1.5	109,000	32,000	16,000
PA	162,550	22	4.2	1.8	1,300,000	218,000	97,000
NY	10,171	16	4.0	2.4	57,000	14,000	9,000
Baywide	239,209	21	4.3	1.8	1,870,000	380,000	180,000

WV Permit Controls

- Represented extractive lands are sites regulated by two federal permit systems (SMCRA and NPDES) implemented by State
- SMCRA permits require:
  - erosion control and revegetation of disturbed lands to original landuses or approved post mining landuse (often trees, sometimes pasture)
  - contemporaneous reclamation requirements (time and distance)
  - “Planting plans” that incorporate many nutrient management concepts – soil testing, fertilization rates based on agronomic need, top soil stockpiling, more
  - Quarry operations are not regulated by SMCRA, but WV law provides a permitting program that includes like requirements.
- NPDES permits control stormwater discharges from disturbed lands with 35/70 mg/l TSS technology-based effluent limitations and monitoring requirements
- Permitted sites are inspected regularly (minimum monthly) to evaluate compliance with requirements of both permitting systems

Phase 5 Crediting – What to do?

- Active Mining with Permit Controls
  - In model world - relatively high nutrient loading land use and no technically proper BMP to apply
  - In the real world, the regulatory controls that are in place result in relatively low nutrient and sediment loadings from the sites and will eventually result in implementation of necessary BMP controls.
  - My recommendation is to credit the AMR BMP to all the “active mining/permitted” components of the extractive landuse for the rest of Phase 5 time. That’s what we’ve been getting and like situations should receive the same.
- AML
  - If subsets of extractive included barren AML lands in some jurisdictions, then ESC and/or the AML BMP should be credited as can be reasonably verified. But the AML should be in there before there is any talk of credit.

Alternative (not preferred, maybe ok)

- ESC on disturbed part of active/permitted mining (1/3 of WV extractive)
- Recognize WV approach and keep AMR on 2/3 of our extractive
- No verification other than “under permit”

Background

- Extractive acres in Phase 5 mean different things in different states. For some states, the acres are the active, permit-bonded acres. For other states, the acres may represent reclaimed acres of abandoned mines or active acres.
- In reality, the active, extractive areas are covered by effluent discharge permits for sediment, but not for N and P.
- Some states submitted Erosion and Sediment Control on Extractive in planning scenarios to reduce loads from these lands. This BMP is not eligible for use in Progress.
- Some states submit Abandoned Mine Land Reclamation for 2014 Progress either to reflect the actual acres of reclaimed abandoned mines OR to mimic an effluent permit limit.
- Water Quality GIT asked WTWG to review both BMPs for use on extractive areas in 2015 Progress.

Phase 5 Progress Scenarios for Some States

- **Abandoned Mine Reclamation is submitted for each acre of extractive, converting all extractive acres to forest, not just those that were reclaimed.**

Phase 5 Progress Scenarios for Some States

- **Abandoned Mine Reclamation is submitted for only those acres which were previously mined, and are now planted as trees or "reclaimed."**

Phase 5 Planning Scenarios for Some States

- **Erosion and Sediment Control on Extractive (ESC Level 1) is implemented on only those actively mined areas with abandoned mine reclamation submitted on lands that are truly reclaimed.**

2015 Progress Option

- **Allow states the opportunity to report ESC on Extractive (Level 1) on only the actively mined areas.**
- **Encourage states to continue reporting true reclamation activities on inactive areas that were reclaimed.**

Considerations/Consequences

- Common principle – only credit pollutant reducing change on the ground or you're violating model calibration.
- Extremely unlikely that new watershed model will include high nutrient loads for the extractive land use populated with active operations
- Phase 5 crediting with AMR should make the loadings more accurate
- Avoid wheel spinning now – deal with change in 2017

Phase 6 Option

- Issues:
  - Data submitted by jurisdictions is not of good enough quality to adequately characterize extractive lands.
  - Extractive lands are not mentioned specifically in the TMDL even though they are broken out as a land use in the Phase 5 Model.
  - Adequate data is not available to define a loading rate from extractive lands.
  - No BMPs exist that adequately simulate the effluent limits from extractive lands, and there is not enough time to collect all permit effluent data and model the land use like we would a point source.
- Proposal:
  - Remove extractive lands from the Phase 6 Model land use list.
  - All extractive areas will be modeled as open space as this is how they would be seen by satellite.
  - True Abandoned Mine Reclamation in which trees are planted after mining activities cease could still be credited as a land use change from Open Space to Forest.