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# Water Management Planning: The Future of Mine Water Discharges in the Pittsburgh Basin, WV- PA

Joe Donovan, Director  
Hydrology Research Center, WVWRI  
West Virginia University

Research colleagues  
Brenden Duffy  
Bruce Leavitt  
Jim Stiles, PhD  
Eb Werner  
Paul Ziemkiewicz



mine water:  
how to handle it?  
what to do with it?  
what does the future hold?



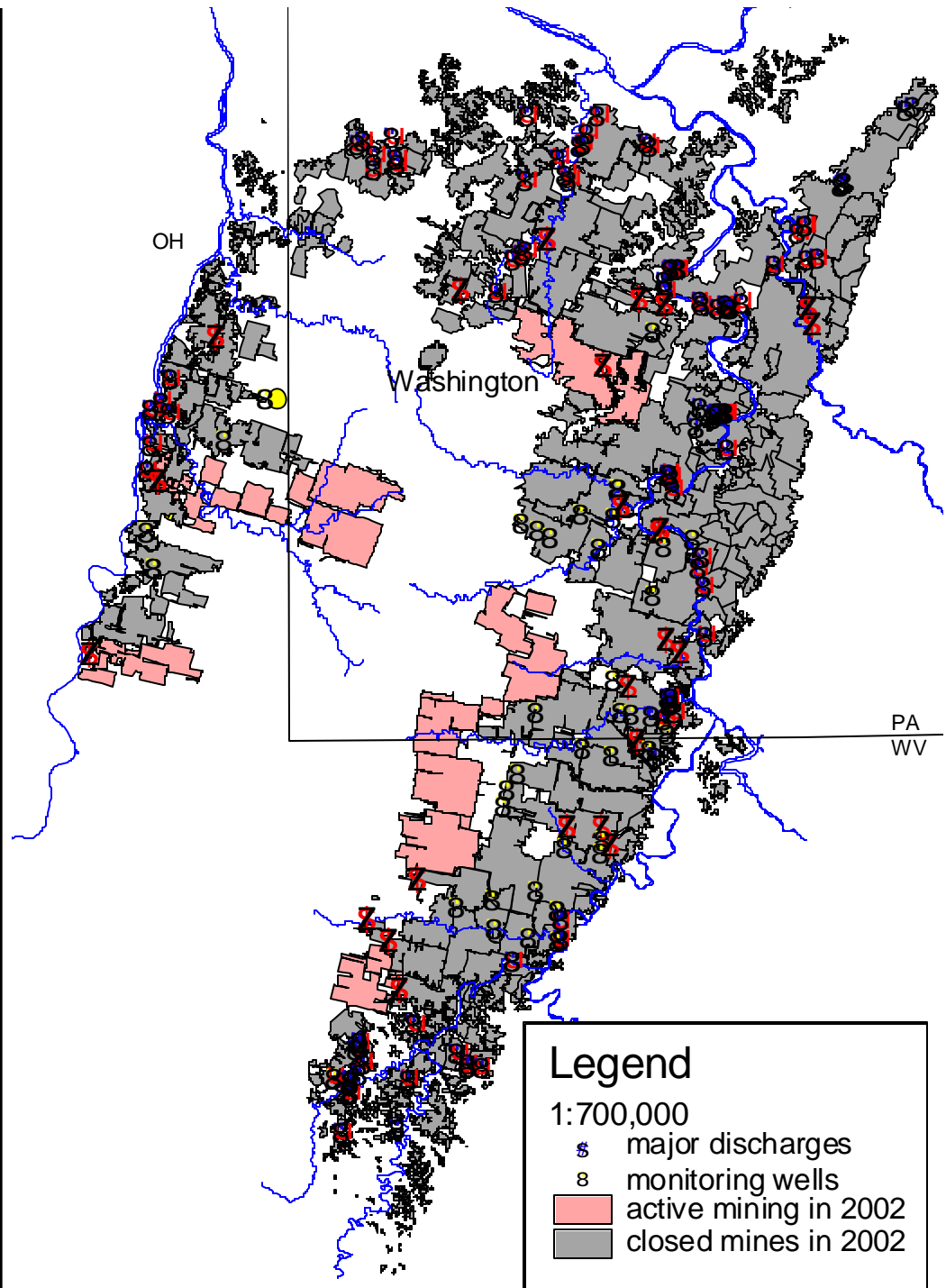
11/9/2000

## what we have learned about mine water from new research, 1999-2004

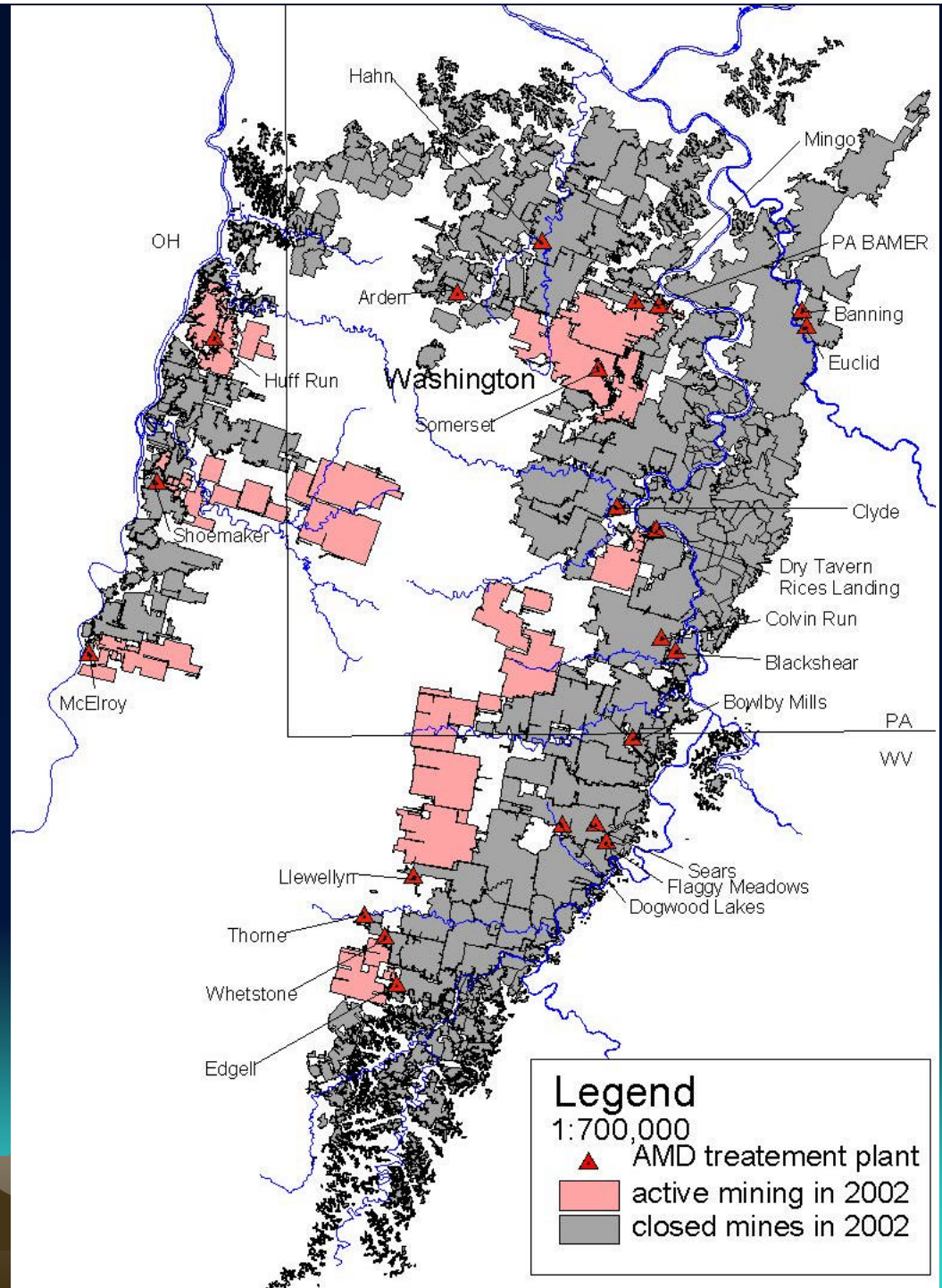
- how mines flood (and are flooding)
- where Pittsburgh seam discharges are
- how large discharges are
- which discharges are treated
- what type of water chemistry may be expected
- how water chemistry may change over time
- when (approx.) and where (approx.) new discharges are likely to occur
- how to map mine flooding and project new occurrences of discharge



# the Pittsburgh mine aquifer



places where  
water  
is  
currently  
treated



# water availability

(note these figures are to be released in upcoming DOE report for project WV-173, estimated date 1/2005 – see [www.hrc.nrcce.wvu.edu](http://www.hrc.nrcce.wvu.edu) for details)



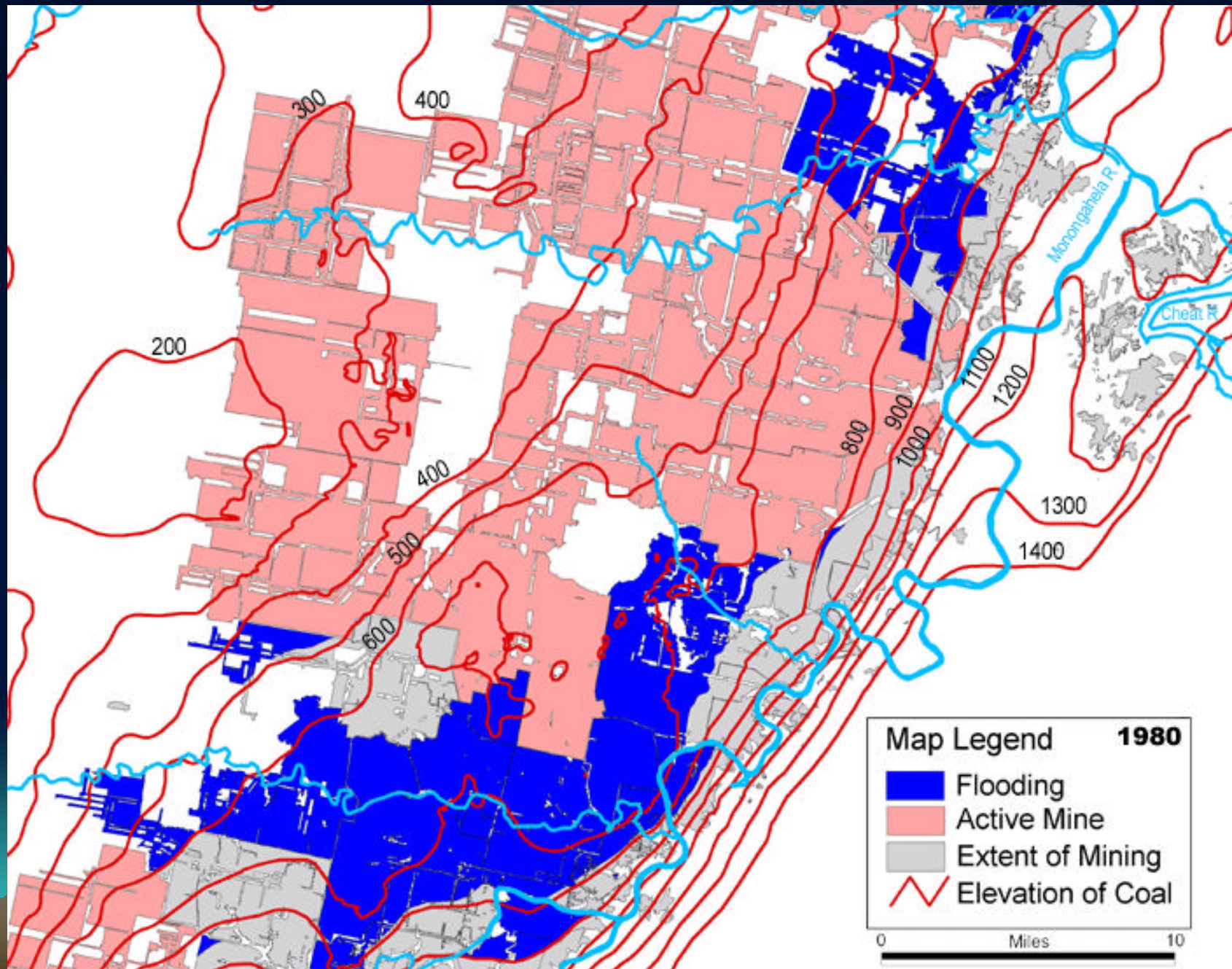
# water chemistry

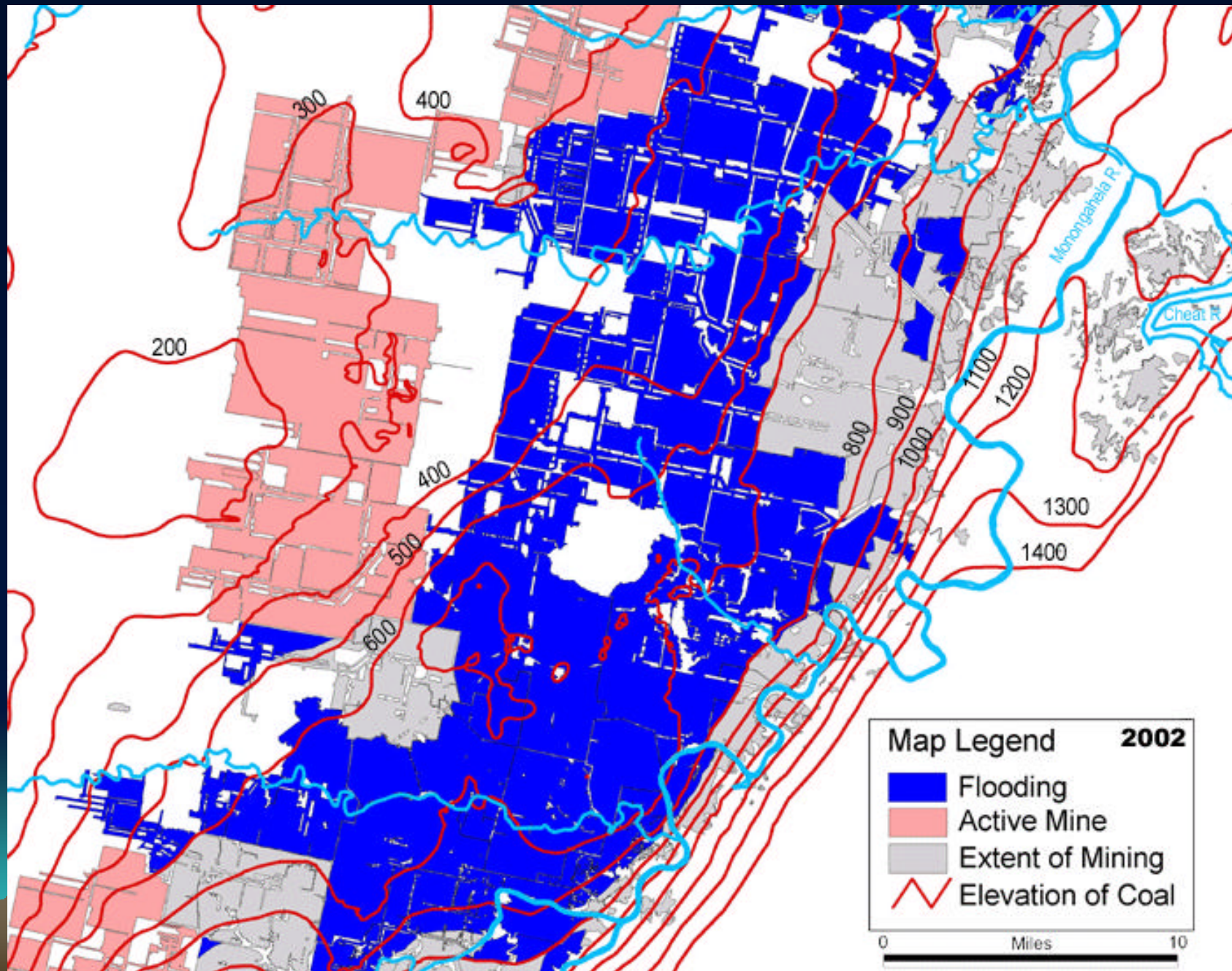
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anticipated future flooding and discharges







## so what?

- we can quantify this water resource
- 95,000 gpm or more available for future use (recharge rate)
- discharges are iron-rich but are mostly net alkaline; much of load is treated
- water quality is not pristine but is gradually improving; will ultimately be usable
- voila the 3<sup>rd</sup> most productive aquifer in the region (after Great Valley karst and Ohio Valley alluvium)
- the keyword for future mine-water use: “**management**”
- future research must shift towards (a) continuation of monitoring, (b) developing innovative water uses

