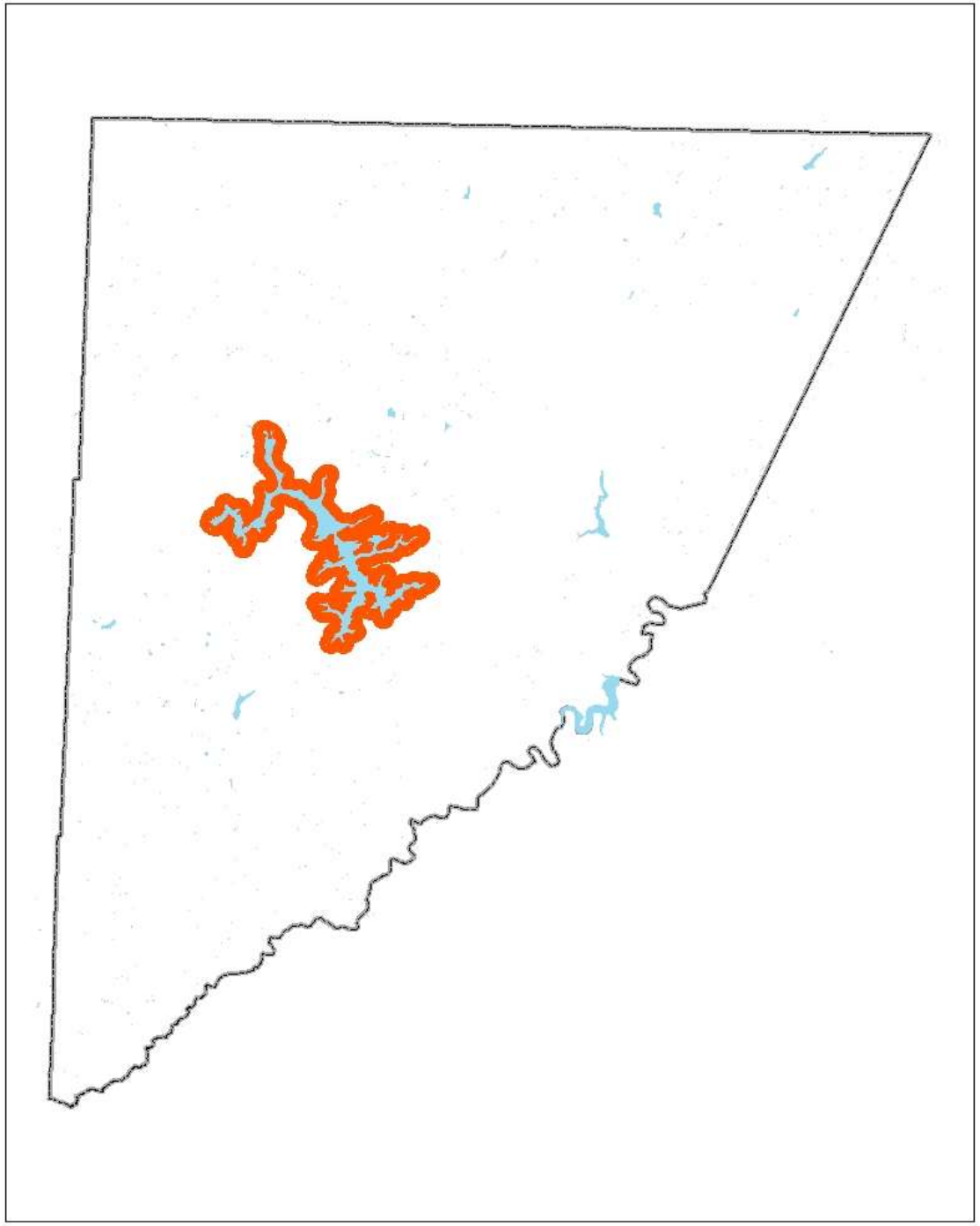
Shale Gas Drilling County-wide

SURFACE DRILLING CONSTRAINTS

SPATIAL ANALYSIS EXERCISE

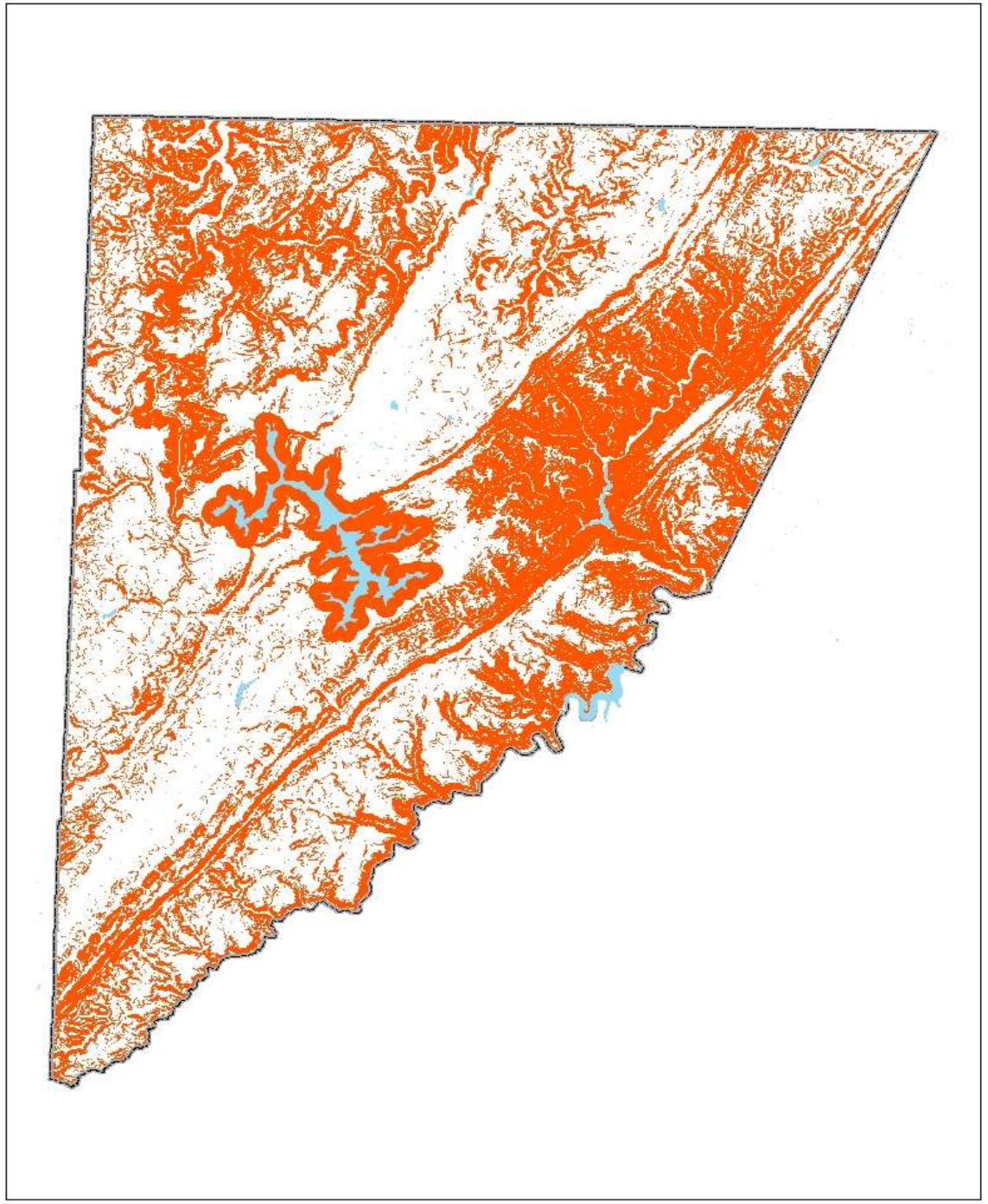
Current Regulation – Deep Creek Watershed Zoning Ordinance

- 2000’ from the high water elevation line of Deep Creek Lake, measured at 2,462 feet above sea level



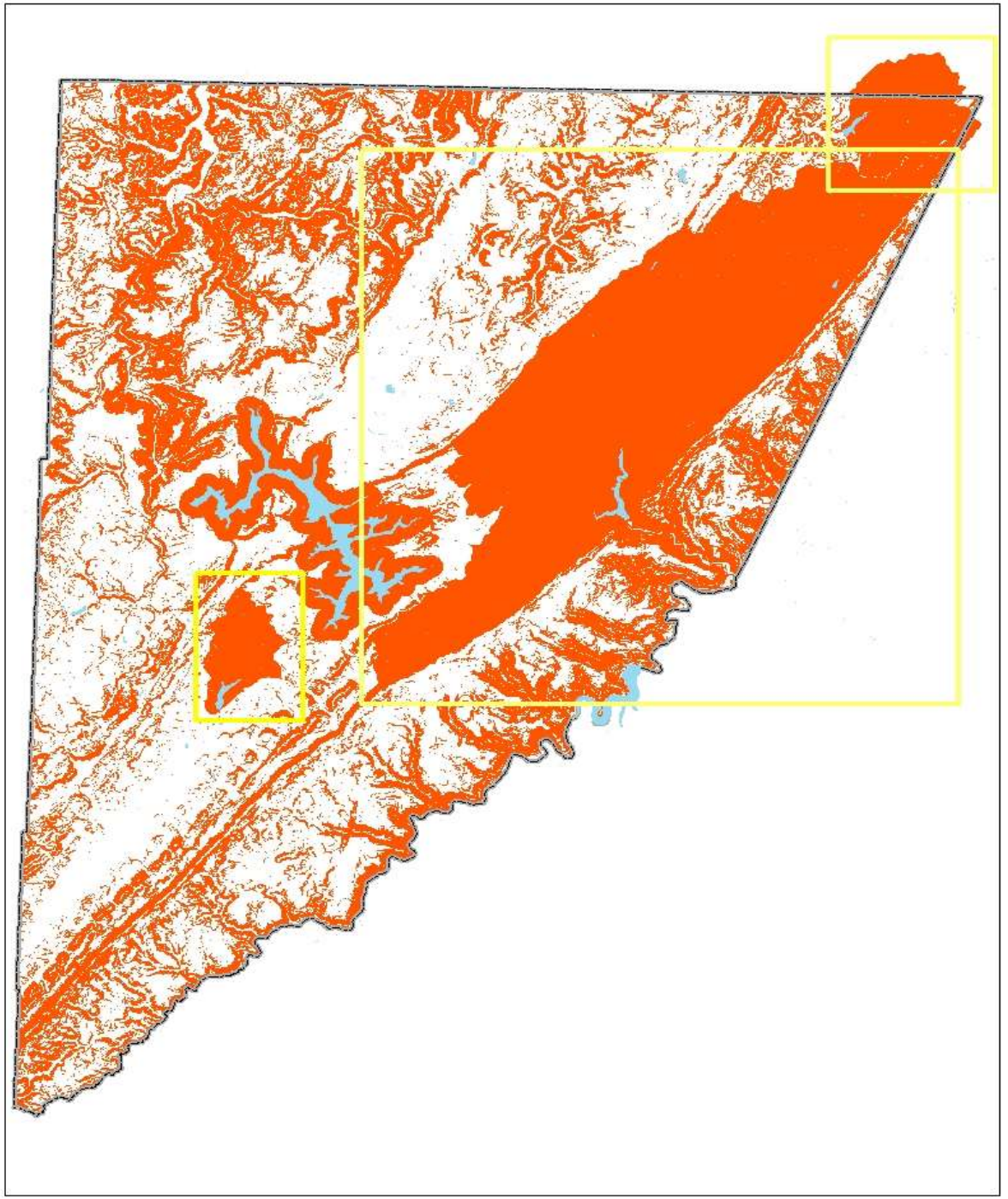
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #3: No well pad may be permitted on land with a slope, before grading, of greater than 15 percent.
- Note: 40.4% of the county has slopes greater than 15%



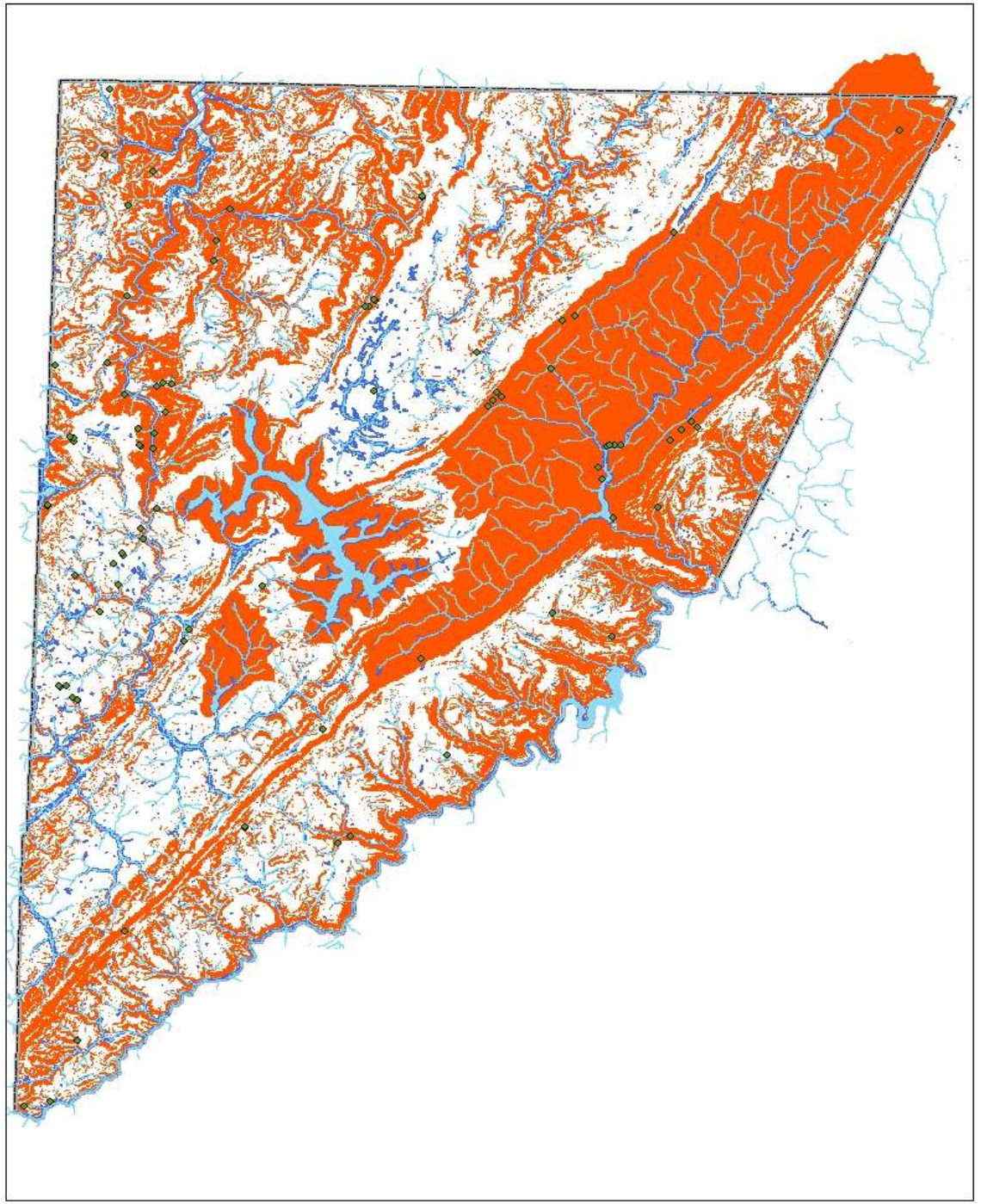
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #4: No well pad may be permitted within the watersheds of any of the following reservoirs: a. Broadford Lake b. Piney Reservoir c. Savage Reservoir
- Delineations provided by MDE and based on the drainage area that serves each reservoir



Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5b: the edge of disturbance of a well pad shall be at least 450 feet from the edge of an aquatic habitat.
- Aquatic habitat is listed in Appendix D of the same document as streams, rivers, seeps, springs, wetlands, lakes, ponds, reservoirs and the 100 year floodplain.

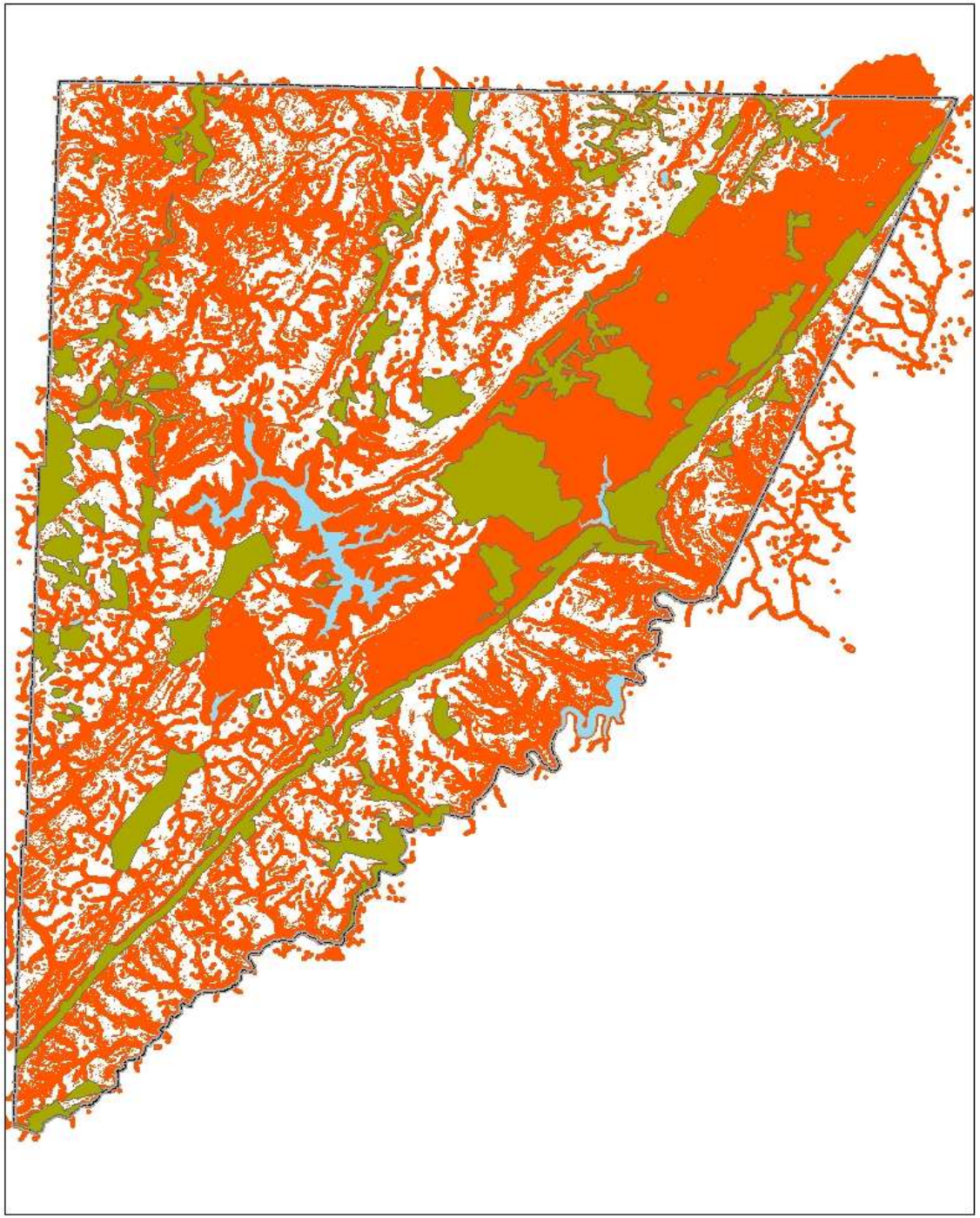


Applying the buffer

- 450 foot buffer on aquatic habitat

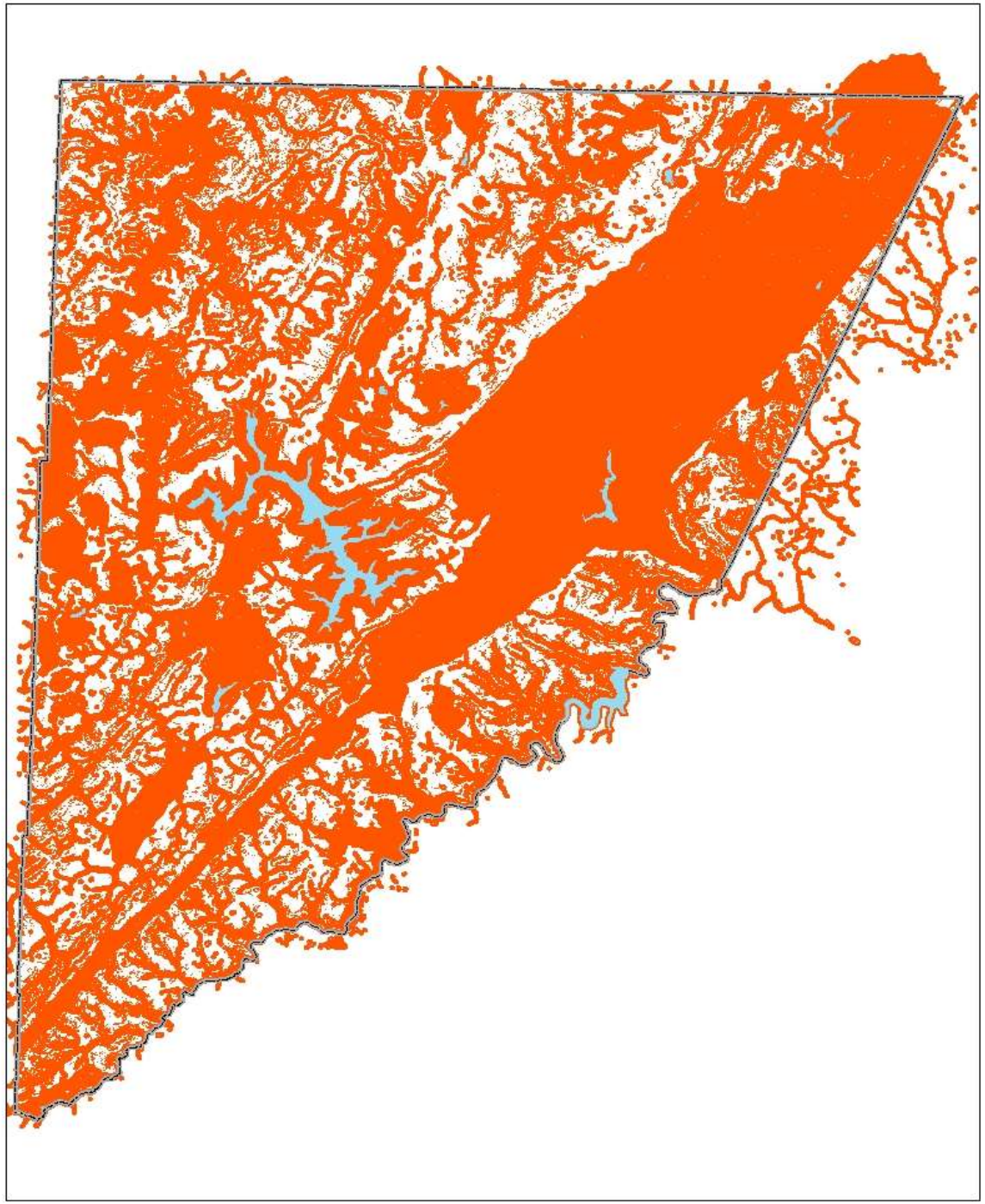
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5c: The edge of disturbance of a well pad shall be at least 600 feet from special conservation areas
- Appendix D defines these as wildlands and irreplaceable natural areas (INA)
- INAs are Tier 1 & 2 areas in the State BioNet Conservation Diversity Map
- No GIS layer for wildlands but all appear to be in the Savage River watershed and align closely with the tiers



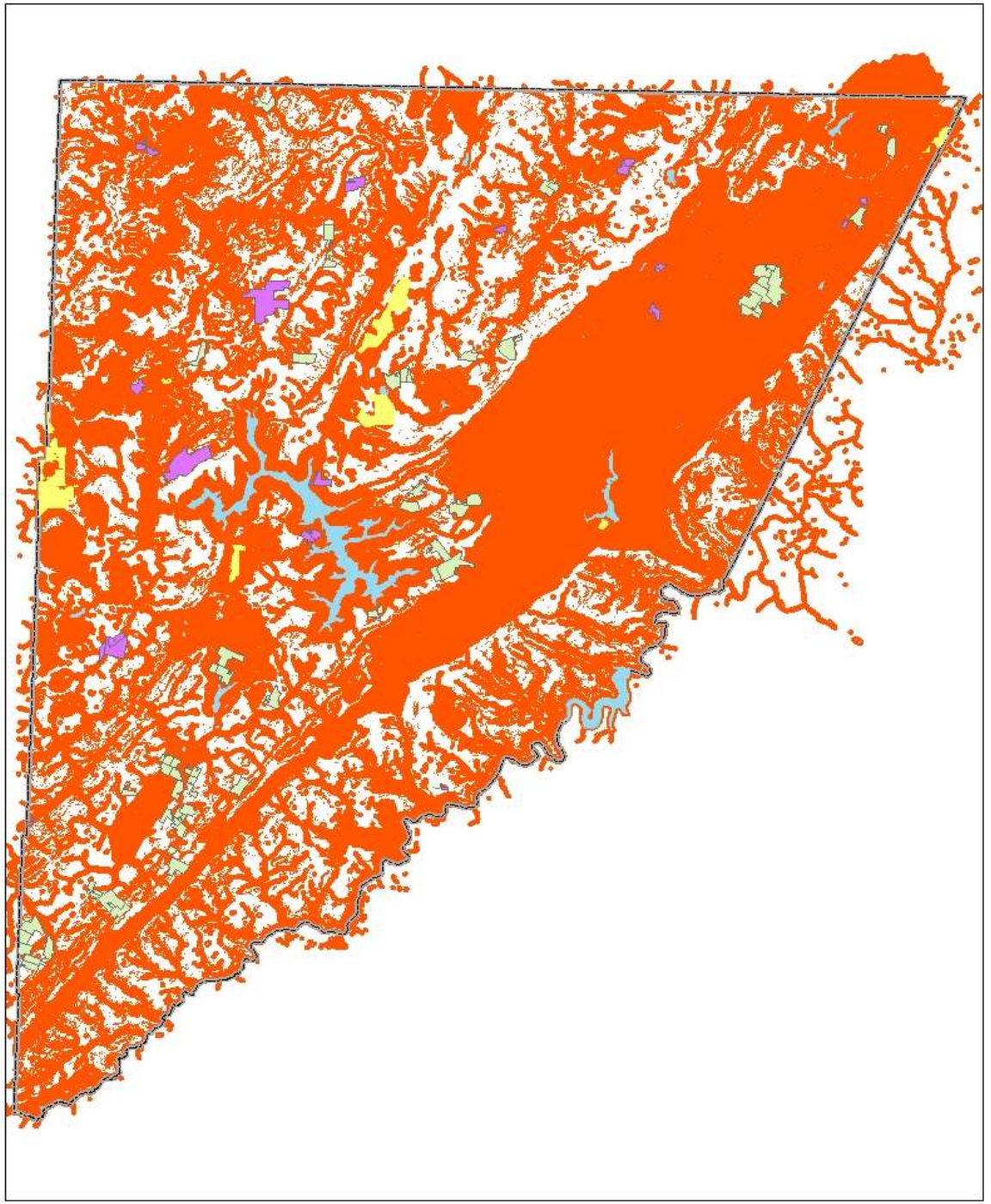
Applying the buffer

- 600 foot buffer on Tier 1 & Tier 2 areas



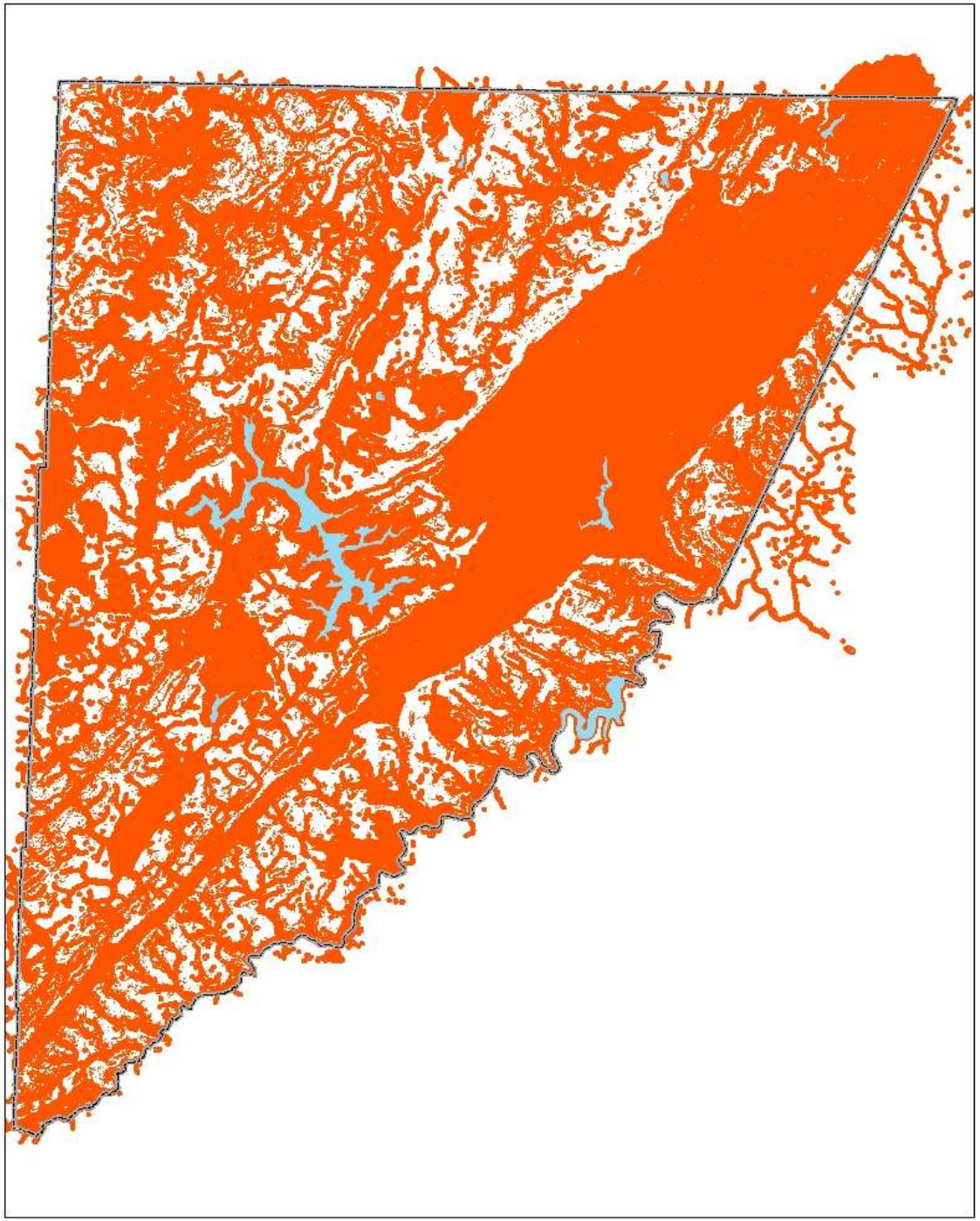
What about land in currently in a conservation program?

- According to DNR/MDE sources these areas will most likely be prohibited from any surface drilling but no setbacks will be applied
- These lands include lands owned by the Nature Conservancy, Agricultural Preservation easements or MET easements



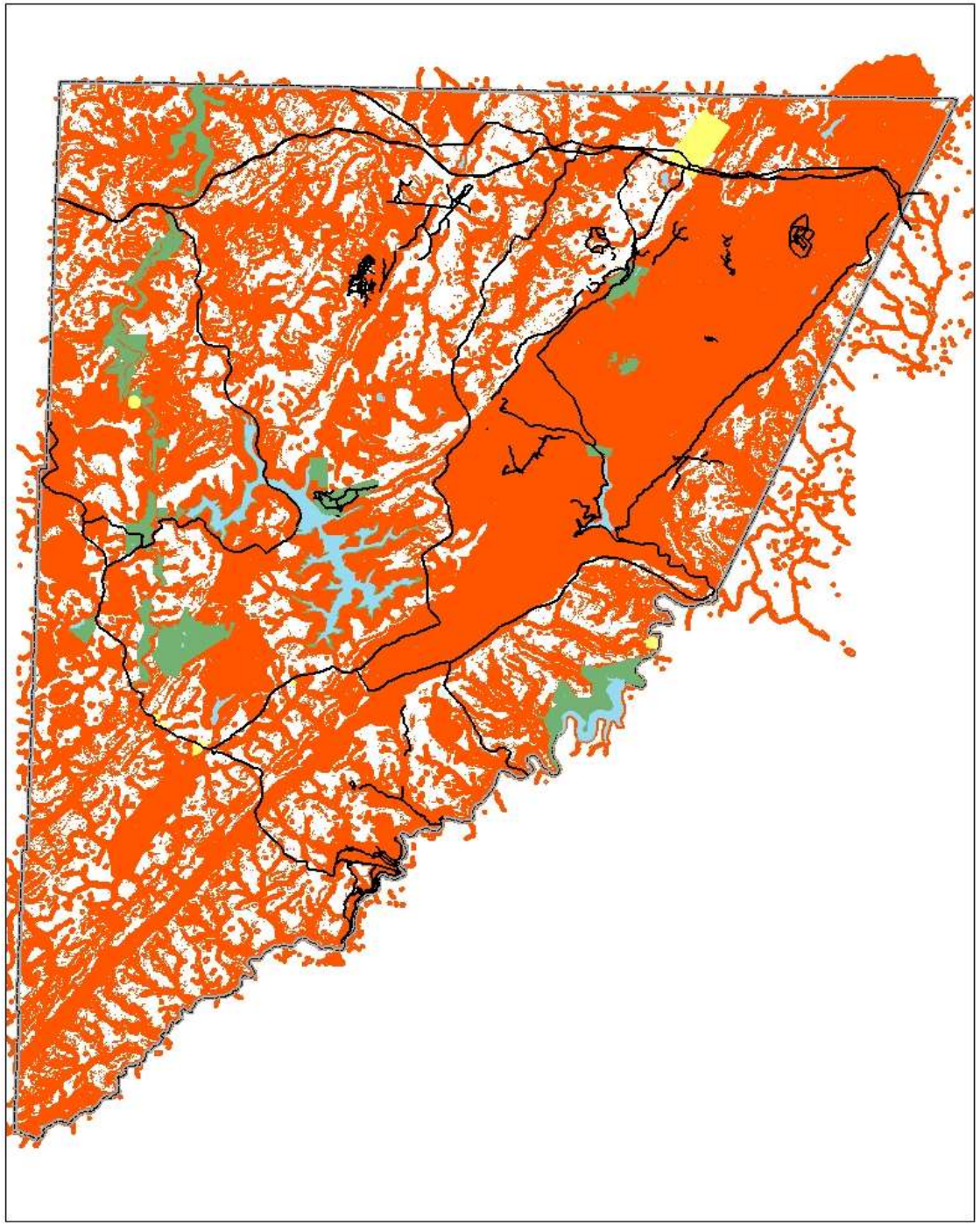
Applying the restriction

- Properties are classified as restricted but no setback is applied



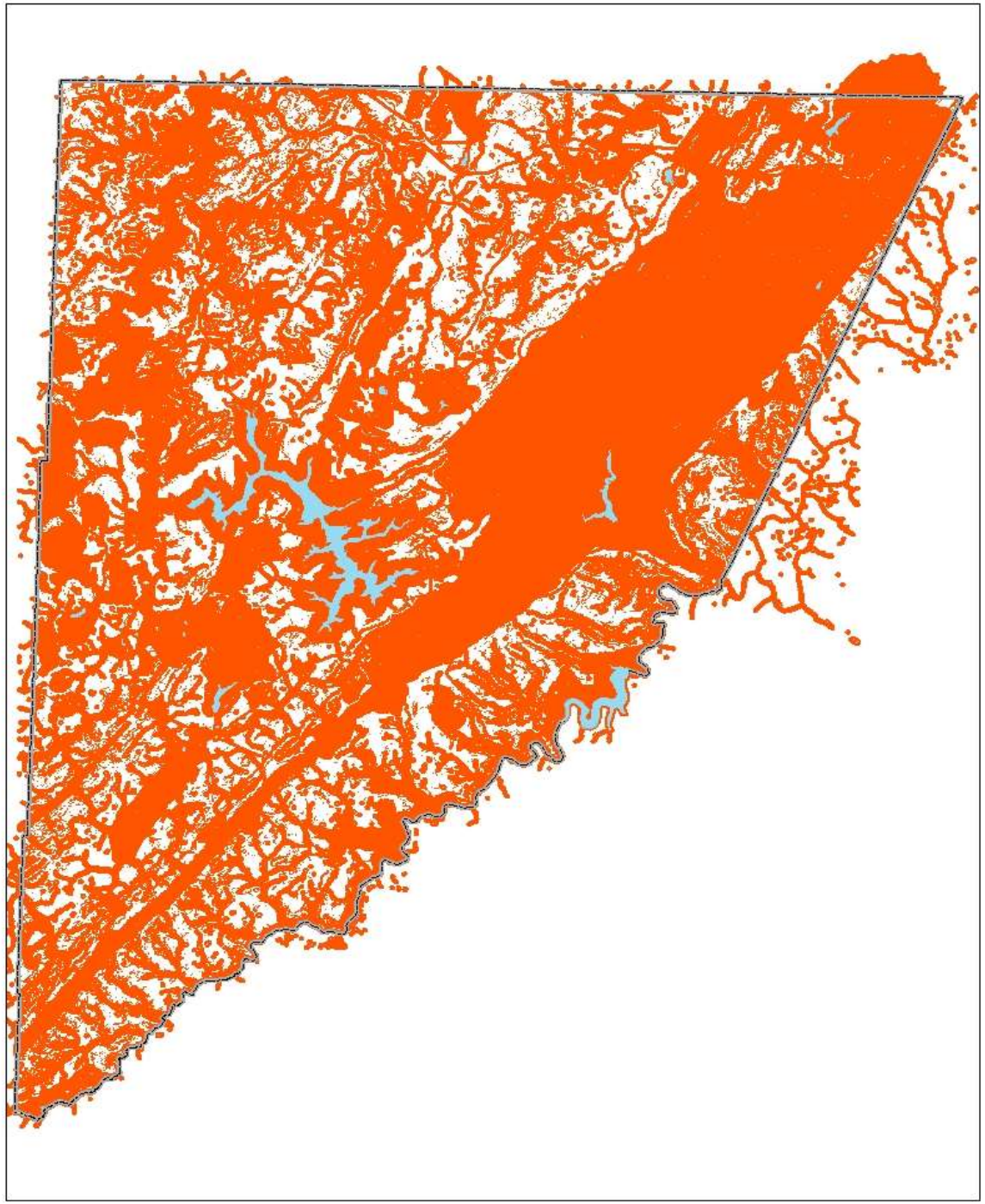
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5d: The edge of disturbance of a well pad shall be at least 300 feet from a cultural or historic site, State or Federal parks, trails, wildlife management areas, wild scenic rivers and scenic byways.
- Appendix D lists only those historic sites on the National Registry
- DNR trails data was mapped
- Wild scenic rivers were included in the 450 foot setback of aquatic habitat



Applying the buffer

- 300 foot buffer from state parks and scenic byways

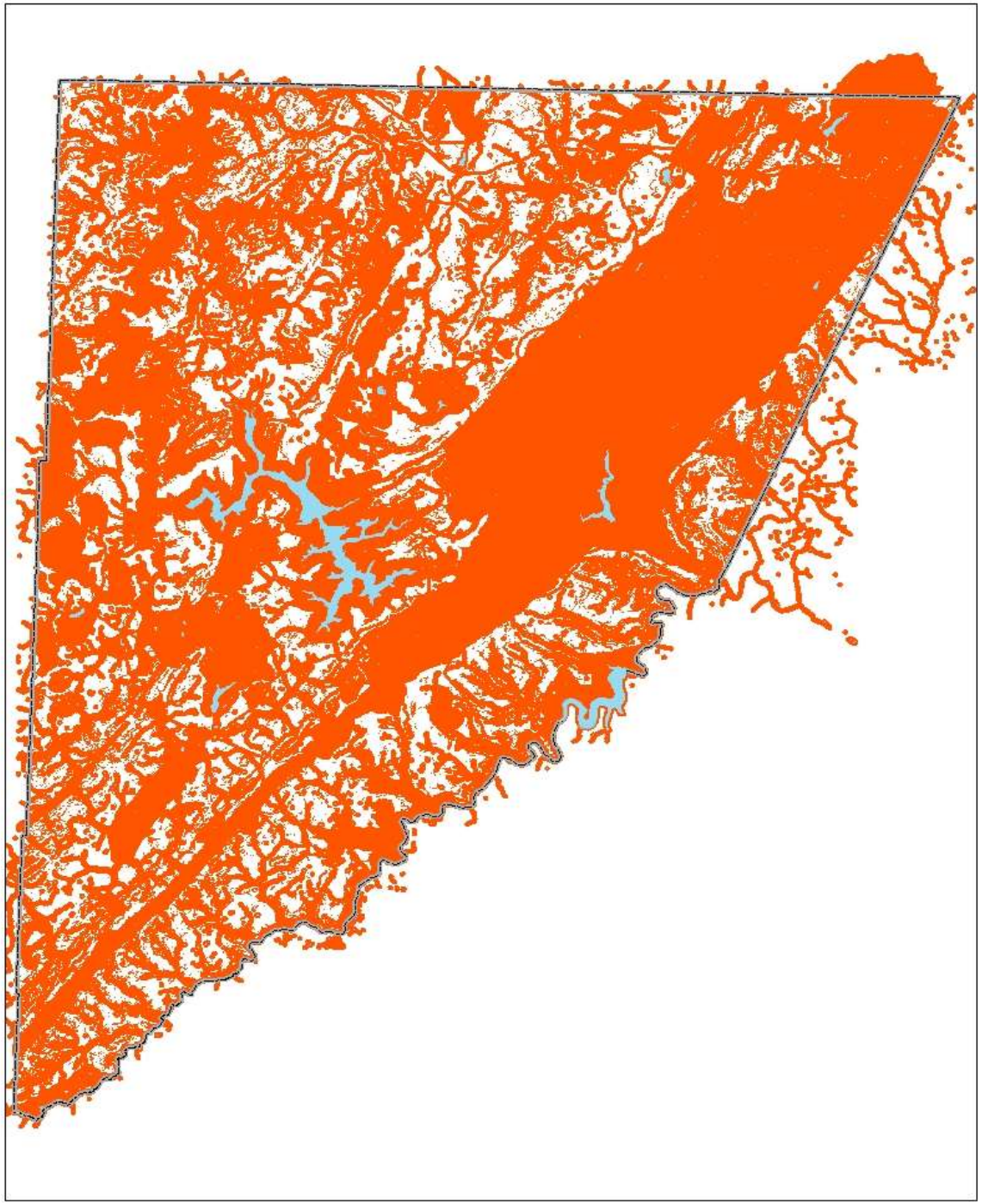


Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5e: The edge of disturbance of a well pad shall be at least 1000 feet of known caves.
- Cave data was provided by DNR

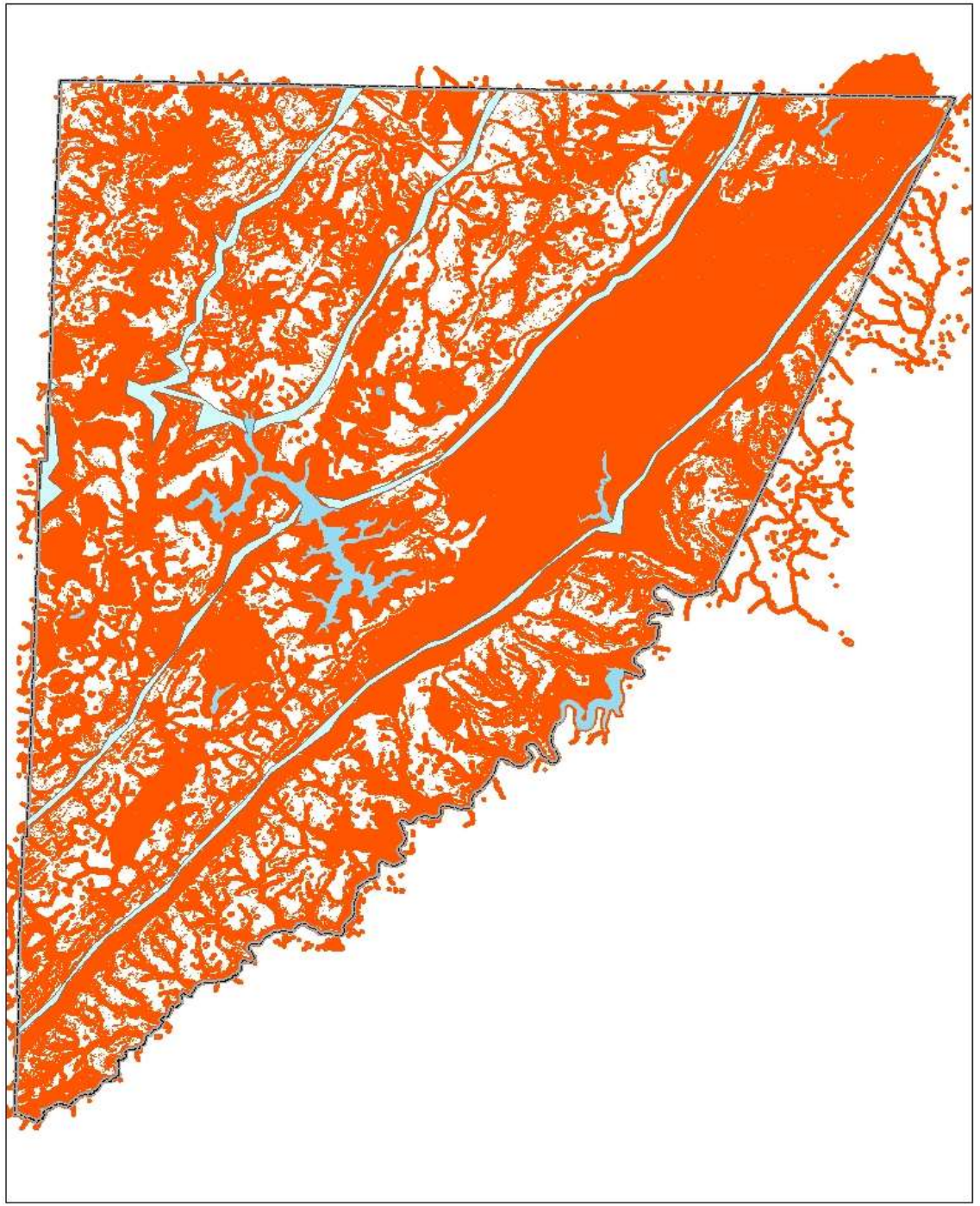
Applying the buffer

- 1000 foot buffer from known caves



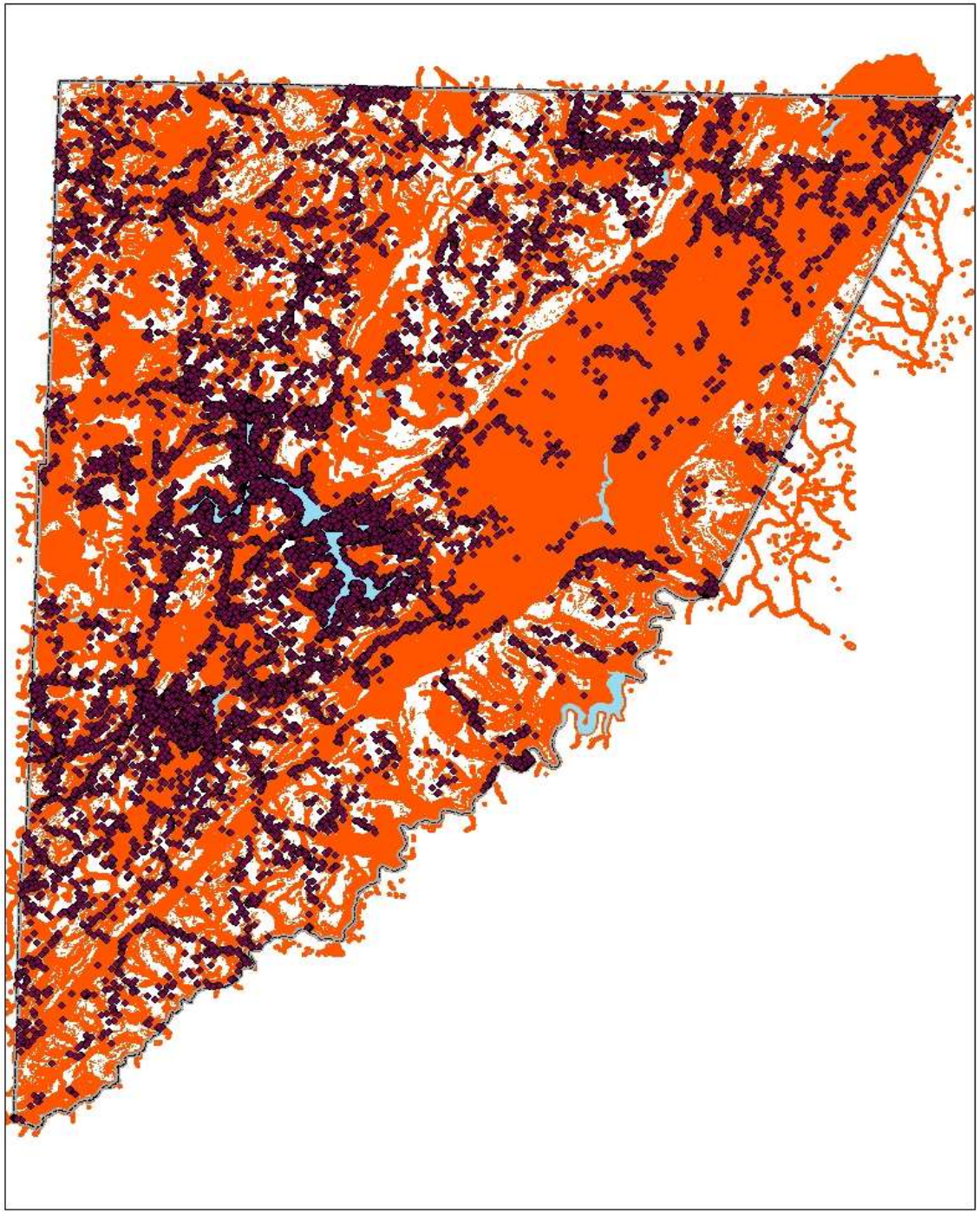
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5f: The edge of disturbance of a well pad shall be at least 750 feet on the downdip side of a limestone outcrop.
- Karst data was provided by DNR
- This cannot be mapped at this time, for though Karst shows where outcrops could be, it doesn’t show where they are.



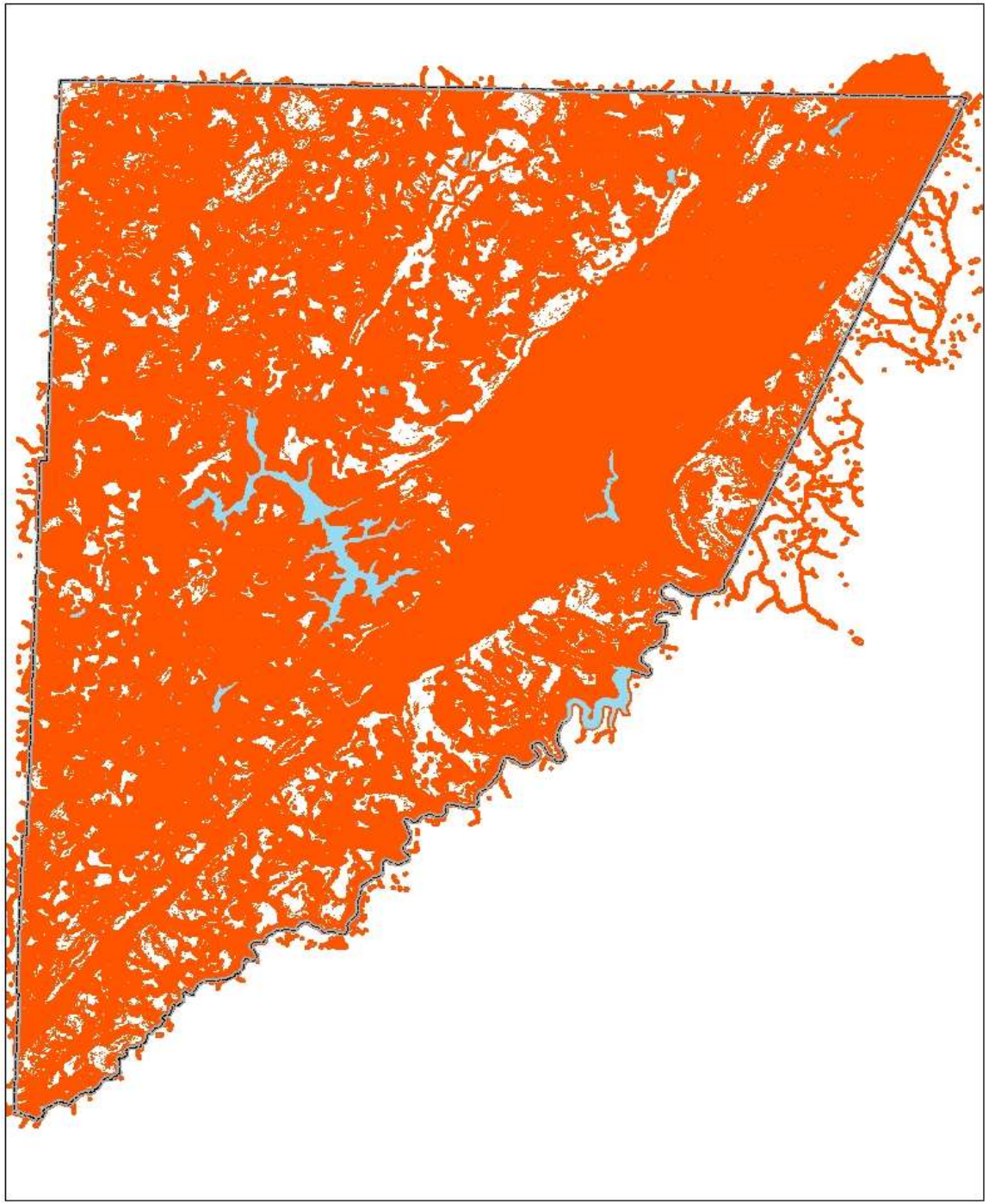
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5g: The edge of disturbance of a well pad shall be at least 1000 feet from any occupied building, school or church.
- County addresses are assigned to residences and businesses. No structures where people do not live, work or regularly congregate should be assigned an address.
- Addresses are given to structures and not lots, therefore they are located in the center of building footprints.
- If the State defines ‘occupied buildings’ to include seasonal or rental homes, all addresses in the county would be included as occupied buildings.



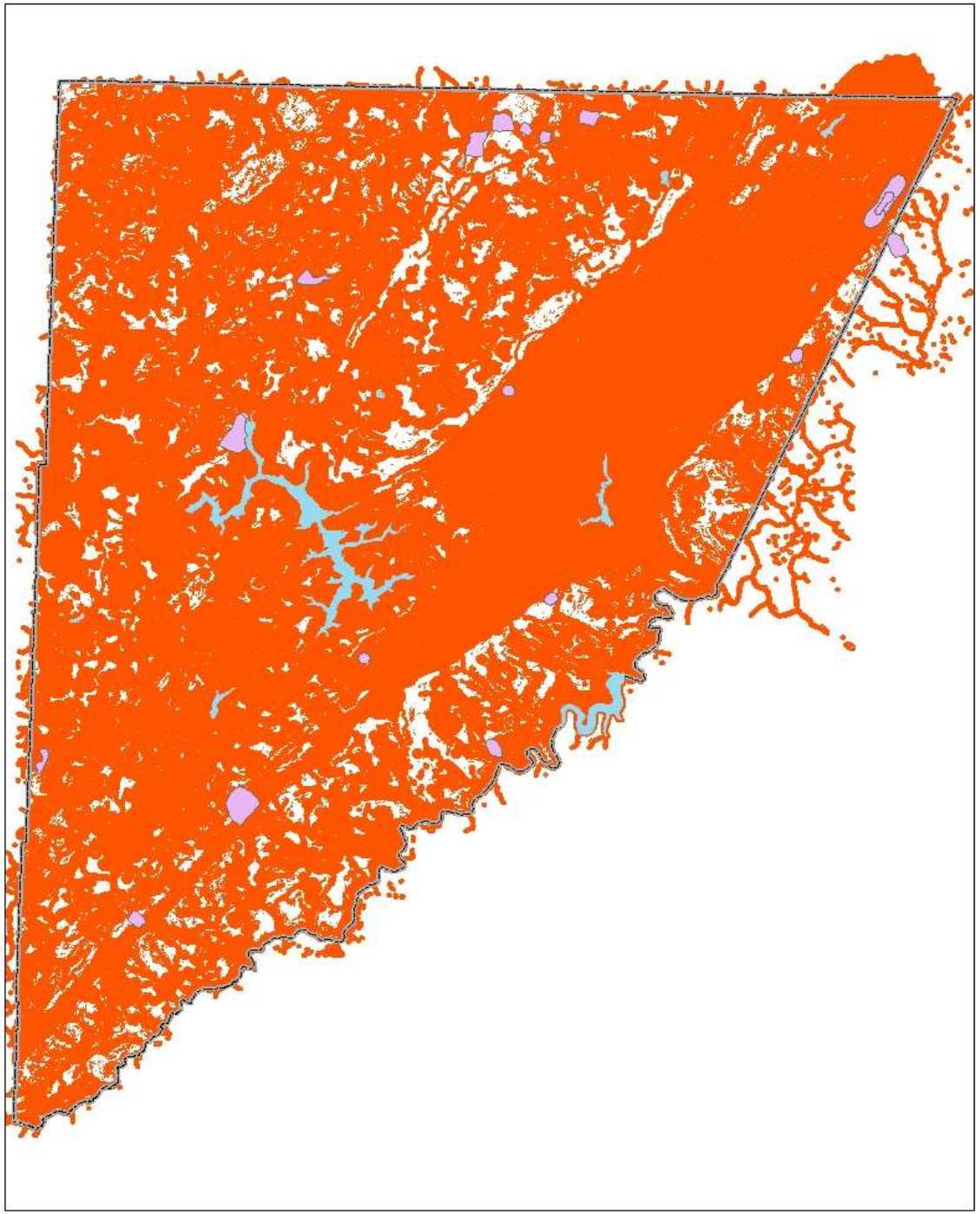
Applying the buffer

- 1000 feet from occupied buildings, schools and churches



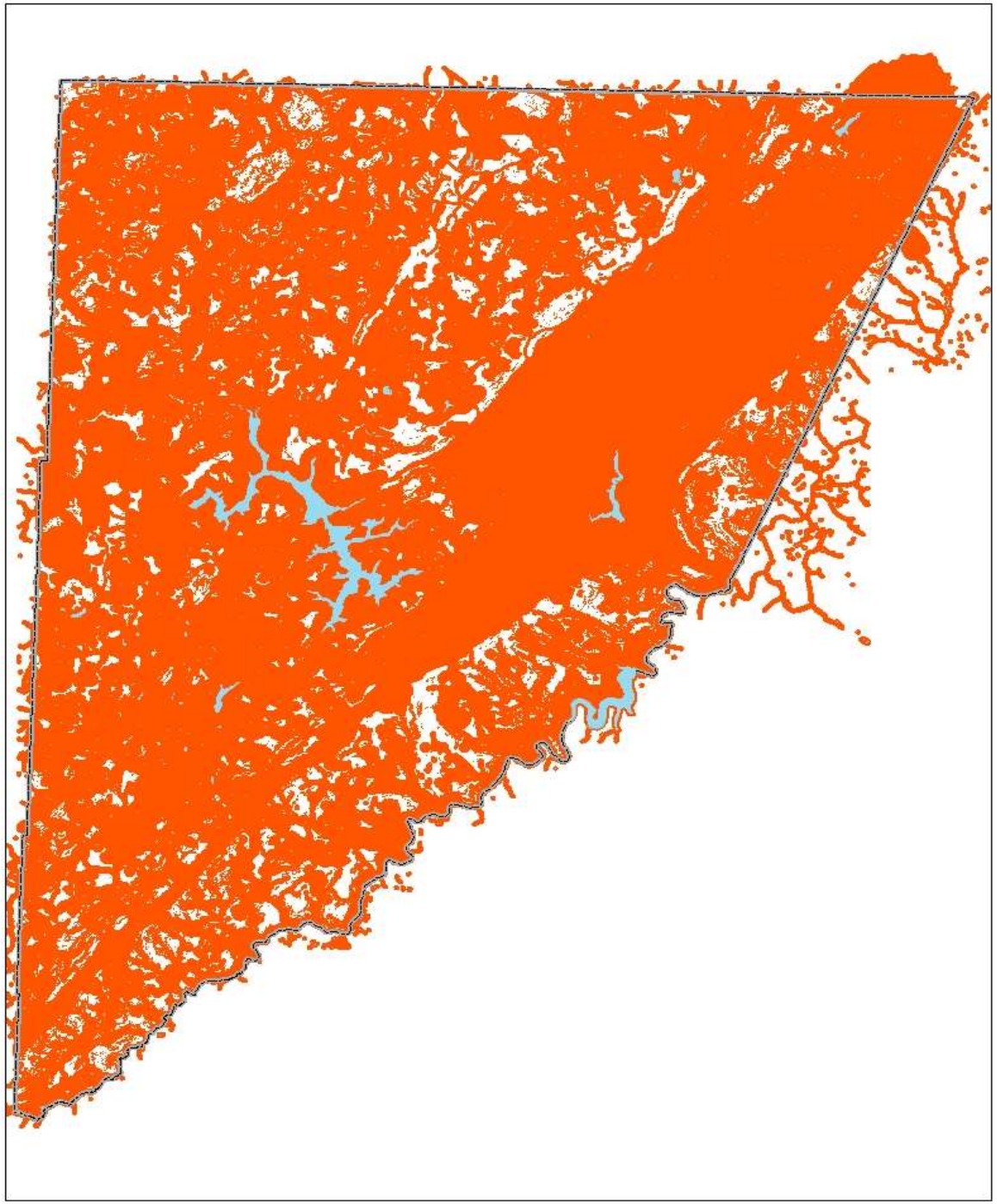
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5h: The edge of disturbance of a well pad shall be at least 1000 feet of a wellhead protection area or a source water assessment area for a public water system for which a Source Water Protection Area (SWPA) has been delineated…



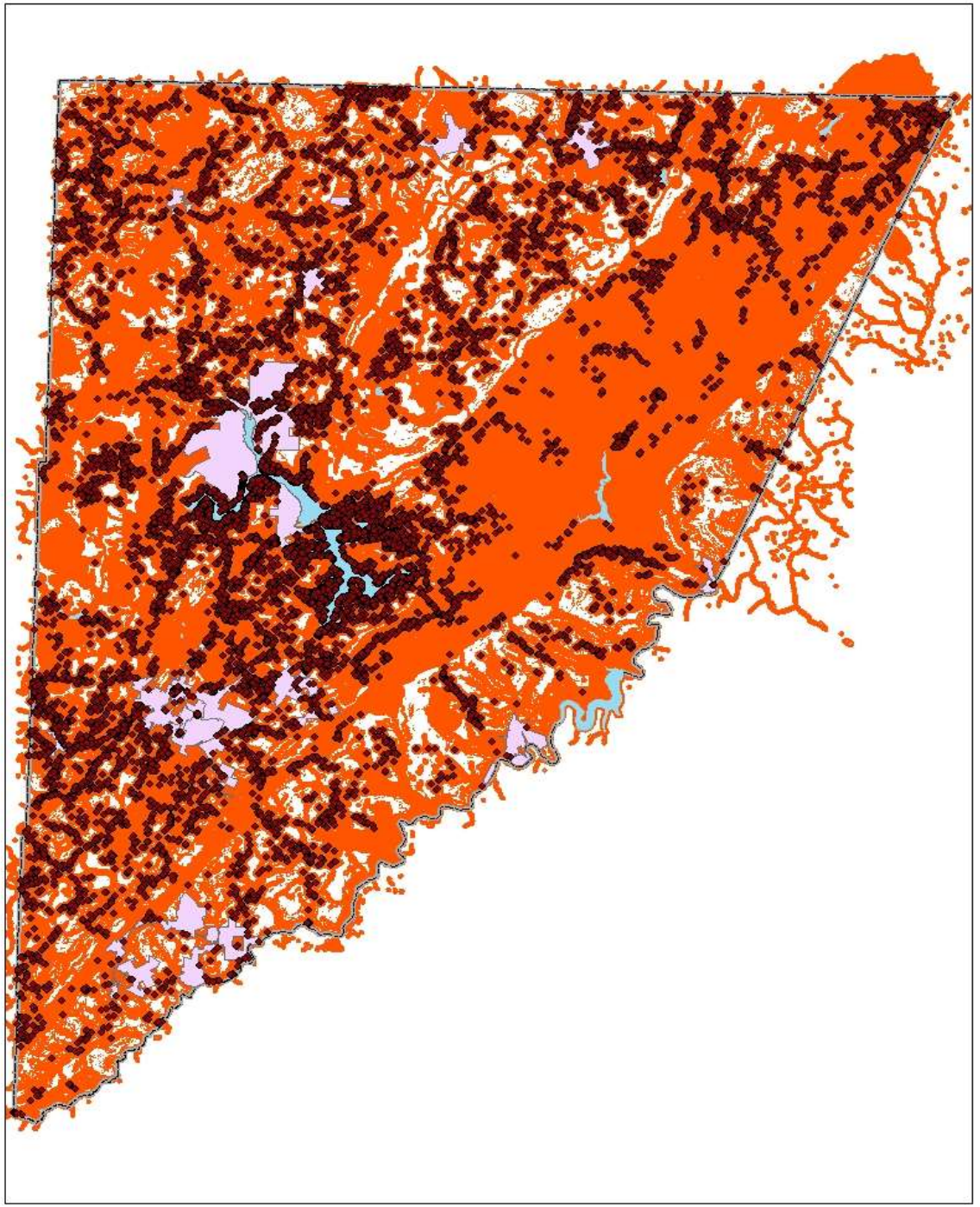
Applying the buffer

- 1000 feet from a SWPA



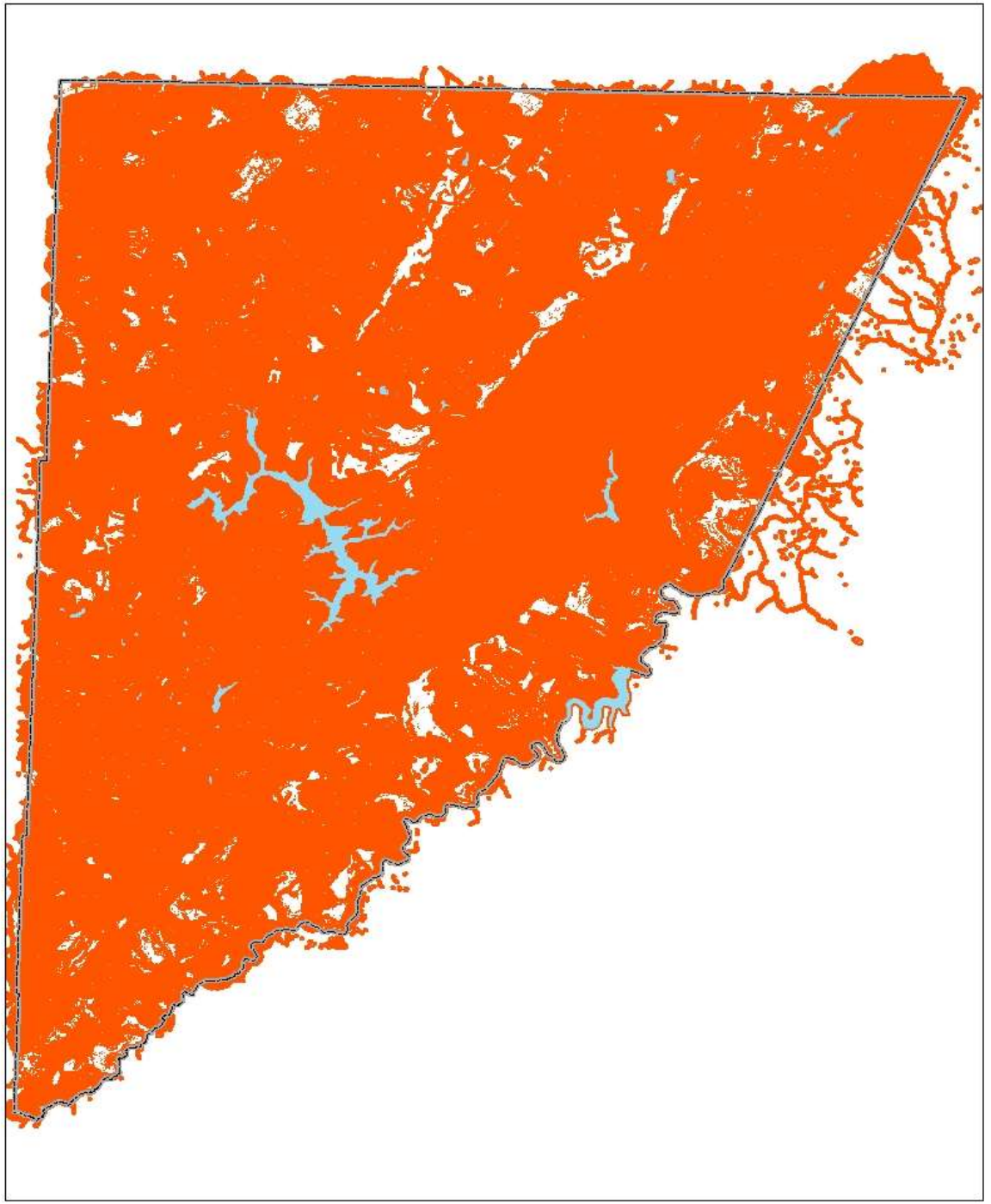
Proposed Regulation – Appendix A: Location Restrictions and Setbacks

- Restriction #5k: The edge of disturbance of a well pad shall be at least 2000 feet from a private drinking water well.
- Since all addresses are located in the building footprint then the assumption is made that their location is close to the location of the well.
- All addresses not served public water would qualify for this setback.



Applying the buffer

- 2000 feet from all addresses not served public water



Points of note

- Did not include historic oil or gas wells, or other features that were unavailable for mapping.
- Restriction #7 states that the ‘setback restrictions for well pads also apply to all gas development activities that result in permanent surface alteration…’
- Restriction #5a calls for all well pads to be 1000 foot from the boundary of the property on which the well is to be drilled.
- As a consequence the areas left in the map must meet that restriction.