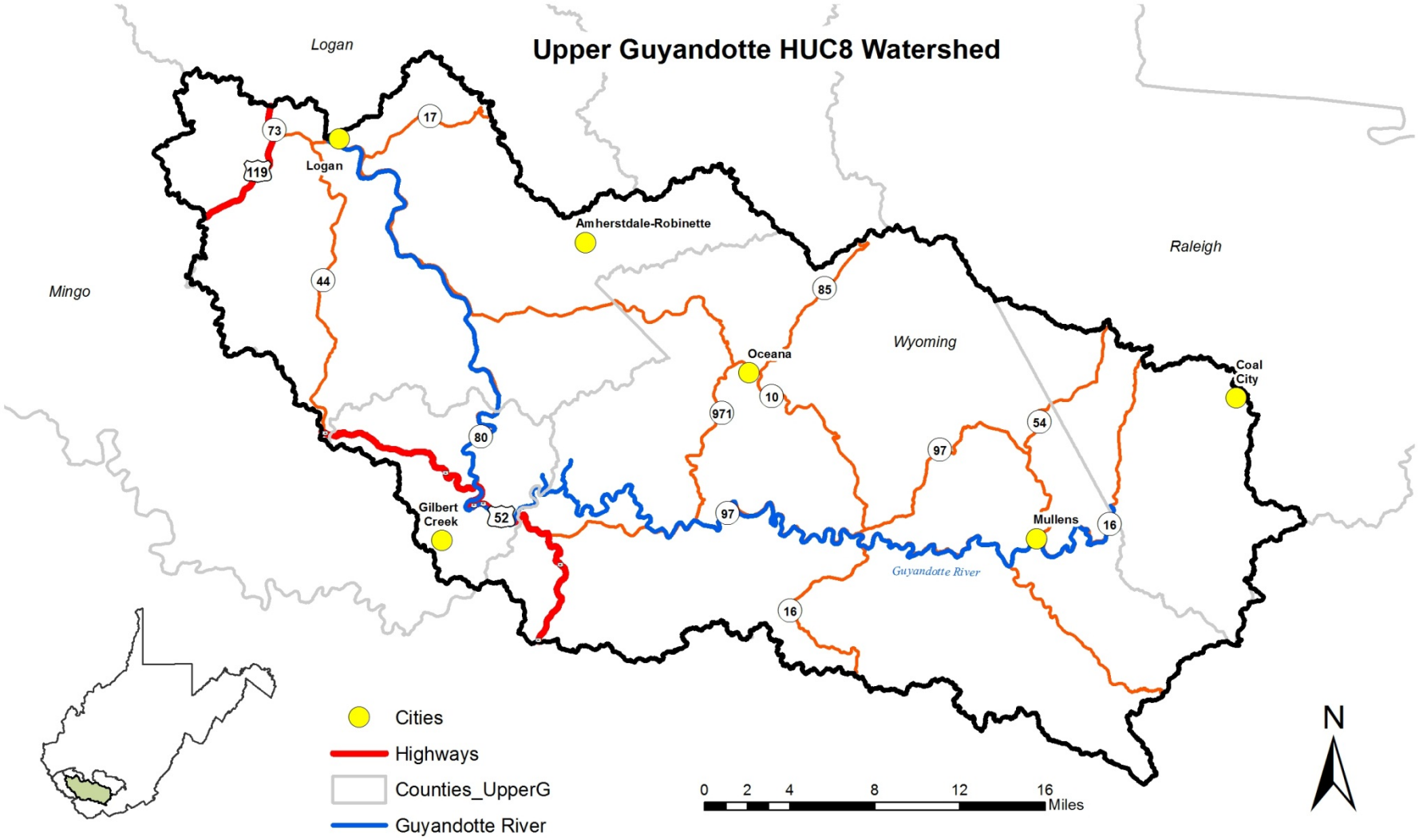
WEST VIRGINIA WATERSHED ASSESSMENT PILOT PROJECT

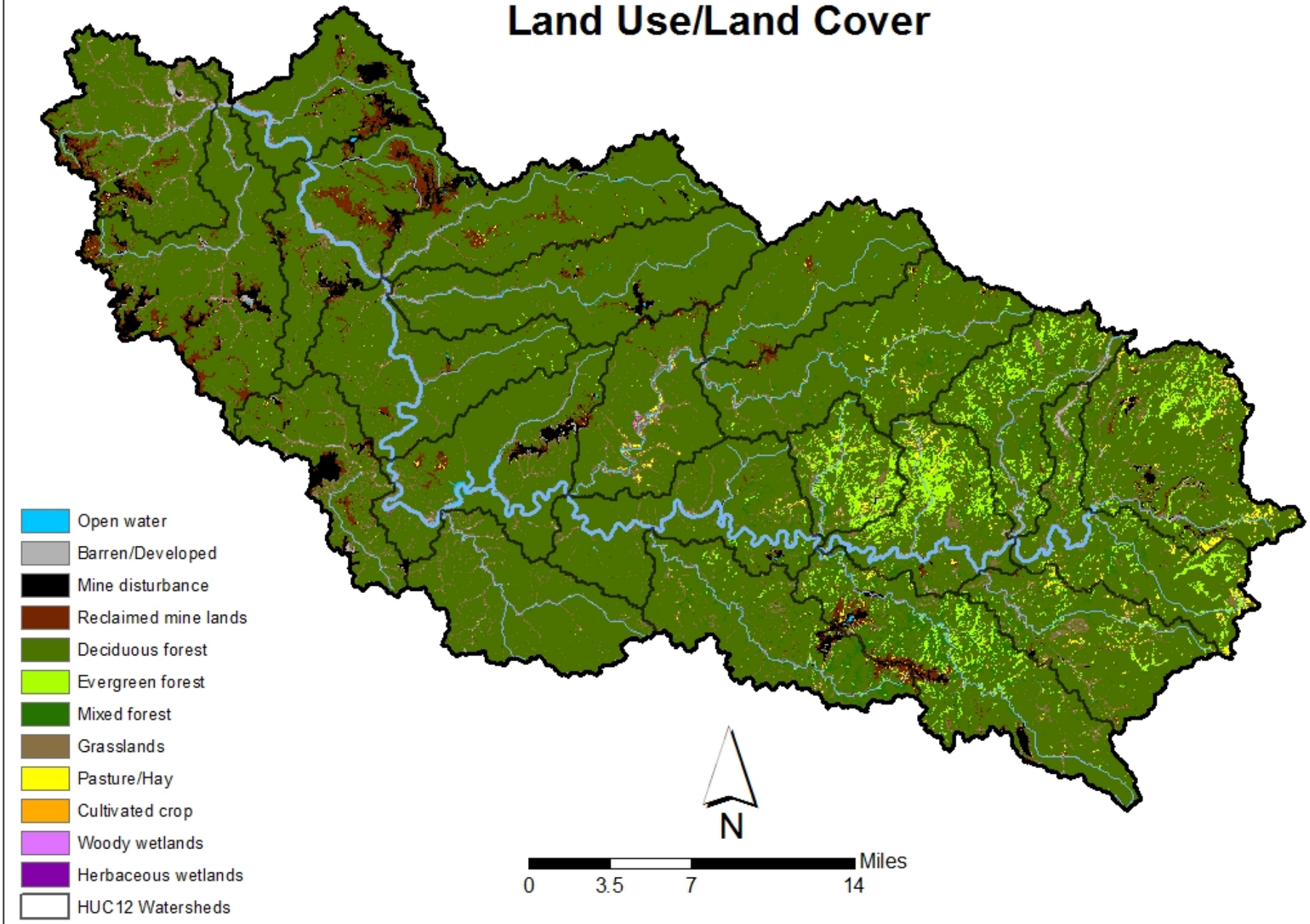
Guyandotte River by Stephen Conn

Stakeholder Workshop: Upper Guyandotte Watershed

May 8, 2013

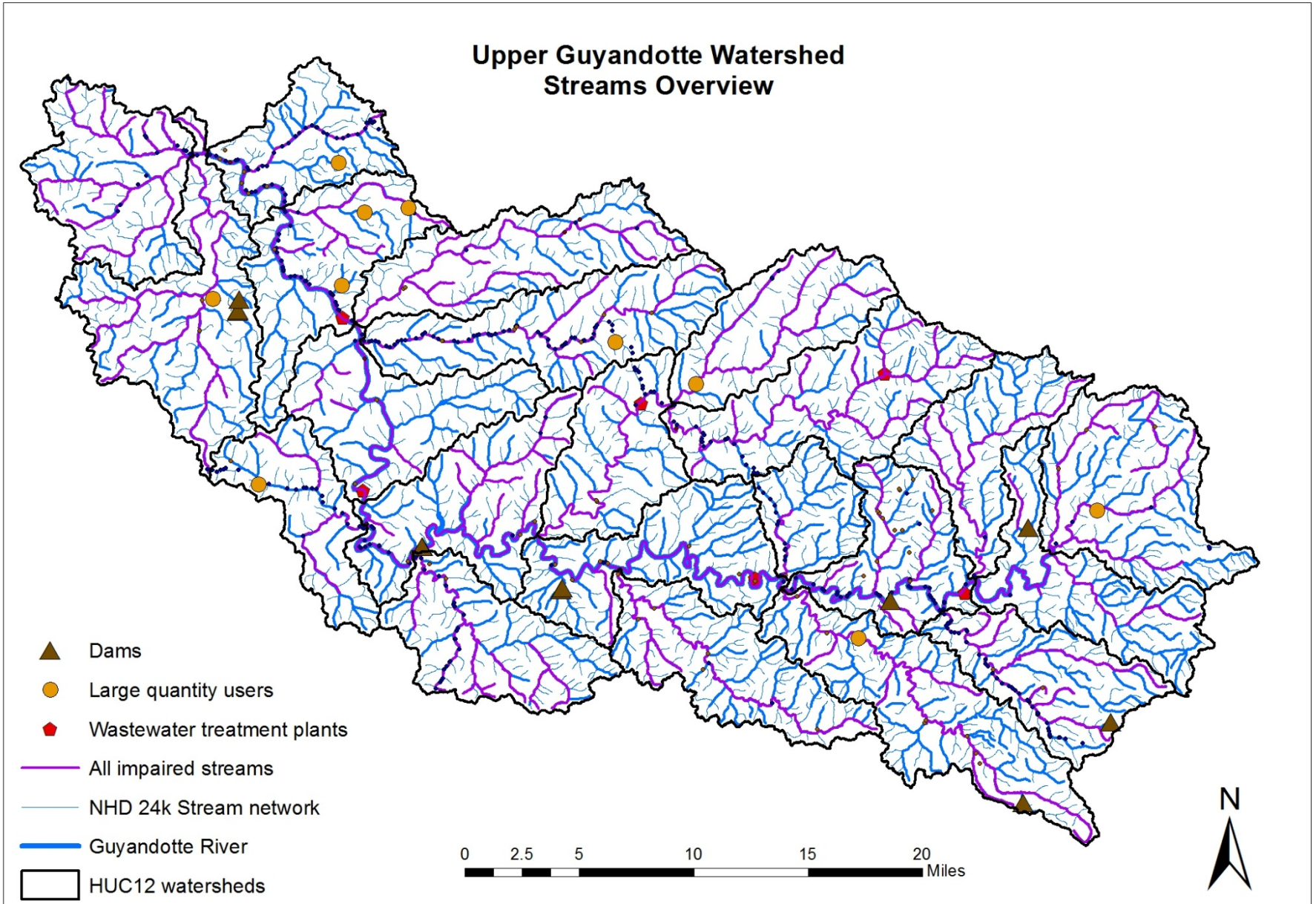

Upper Guyandotte HUC8 Watershed
Logan
Mingo
Raleigh
Wyoming
Logan
Amherstdale-Robinette
Oceana
Coal City
Gilbert Creek
Mullens
Guyandotte River
73
119
17
44
85
10
971
80
52
97
54
16
Cities
Highways
Counties_UpperG
Guyandotte River
0 2 4 8 12 16
Miles
N

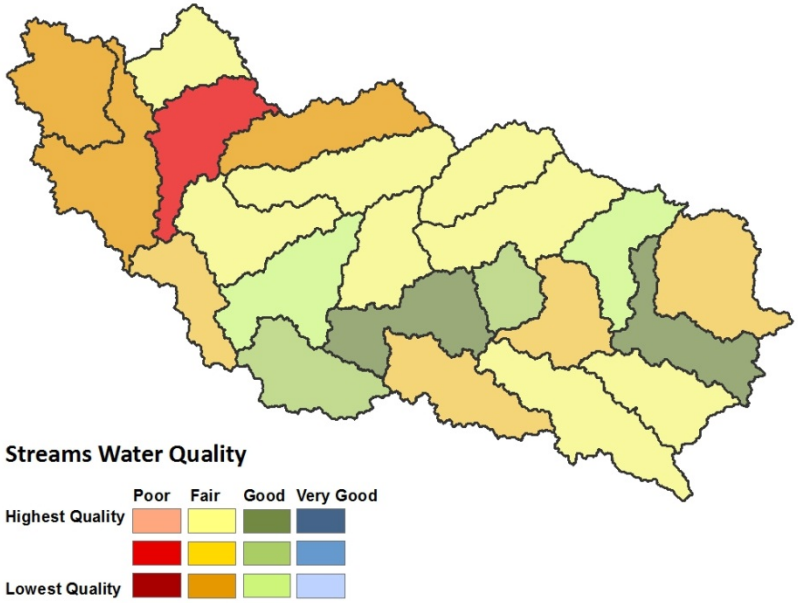
Upper Guyandotte Watershed
Land Use/Land Cover

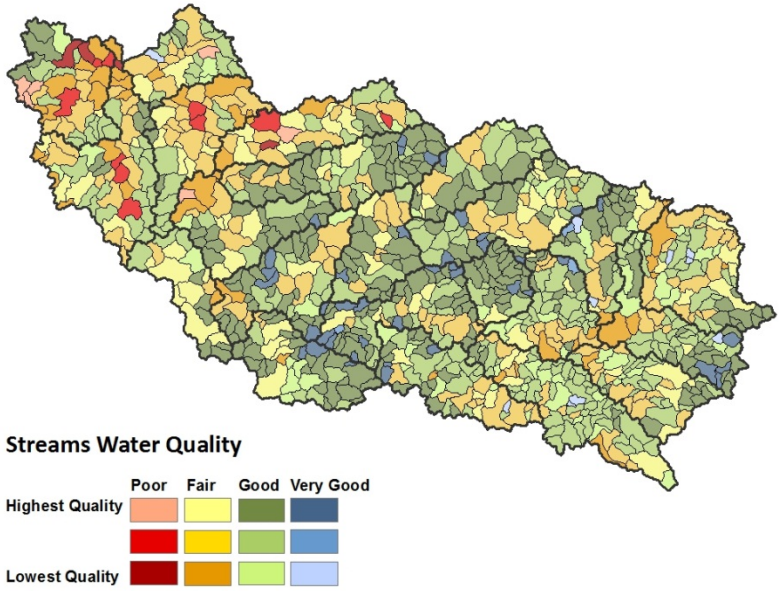


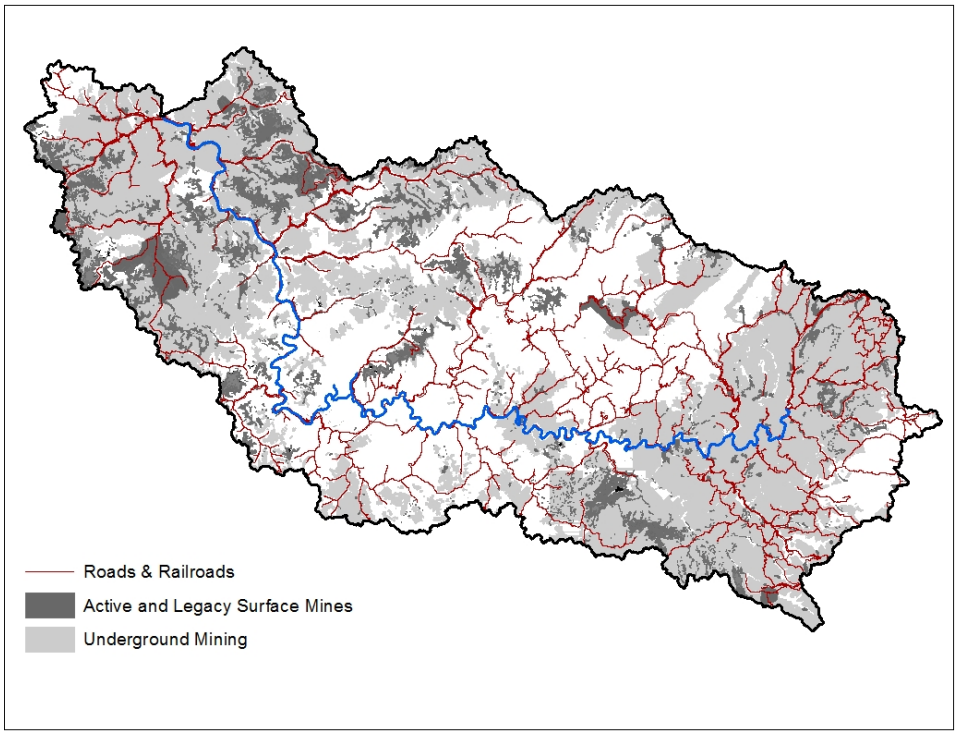
Upper Guyandotte Watershed: Streams

Buffalo Creek, Man, WV


Upper Guyandotte Watershed
Streams Overview
Dams
Large quantity users
Wastewater treatment plants
All impaired streams
NHD 24k Stream network
Guyandotte River
HUC12 watersheds
0
2.5
5
10
15
20
Miles
N

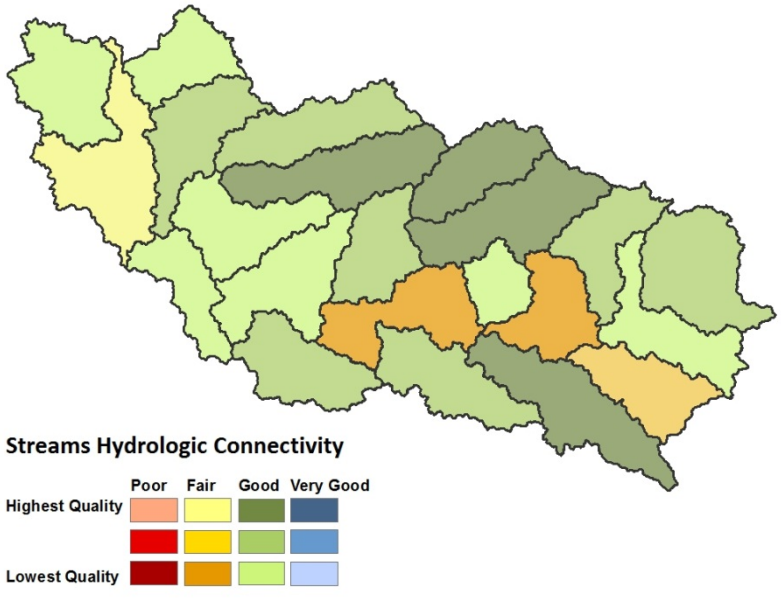


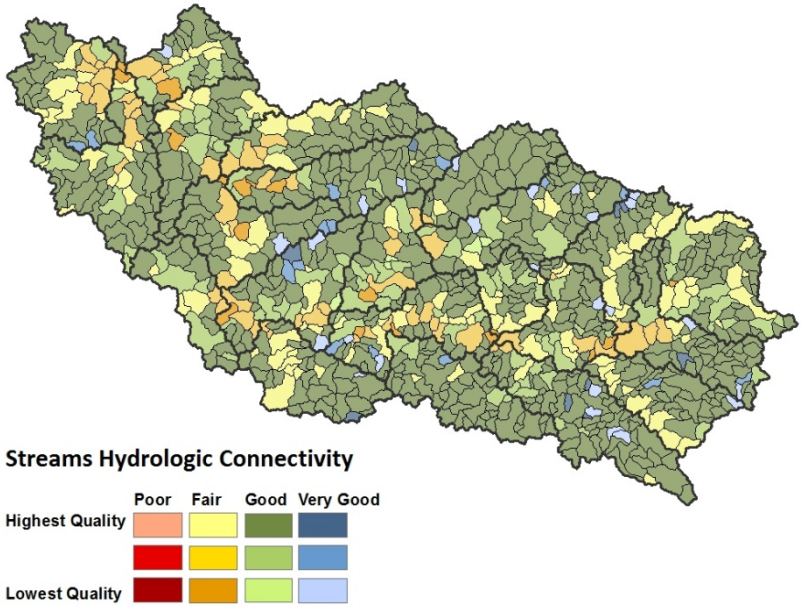


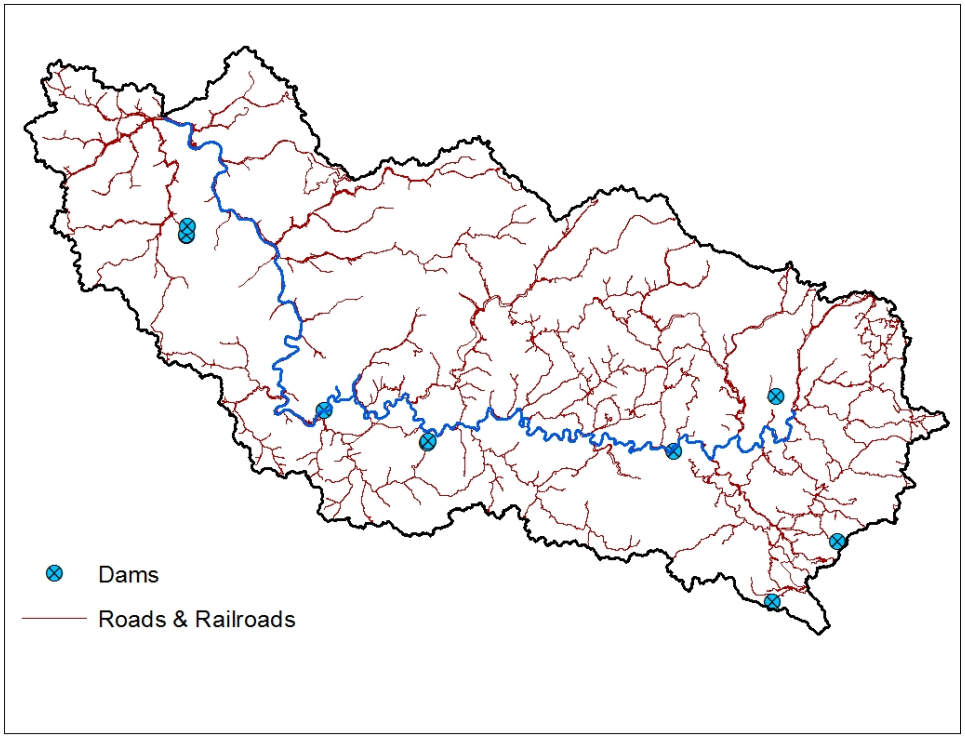


Streams Water Quality

Water quality samples
Impaired streams
Surface mining
Underground mining
Impervious surface
Wells
Roads & rail
Land use/Land cover

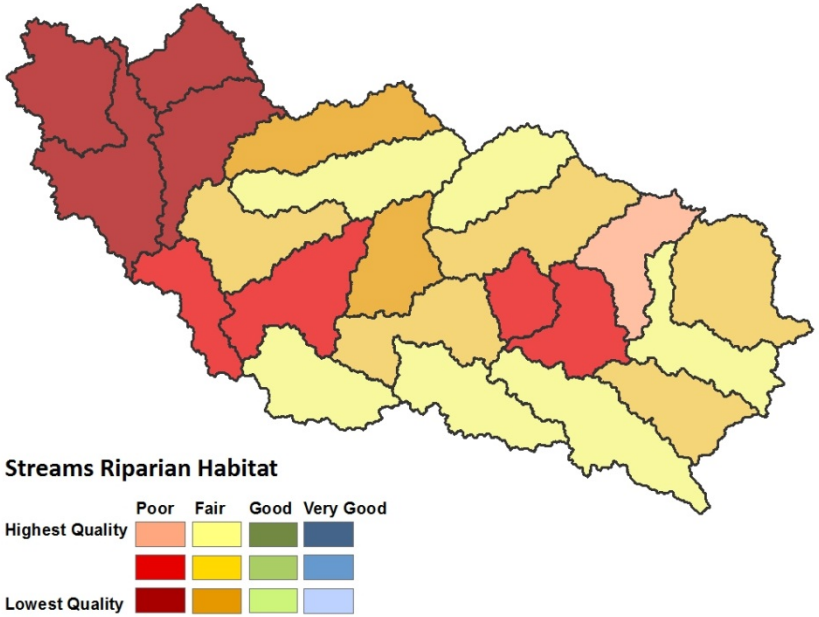


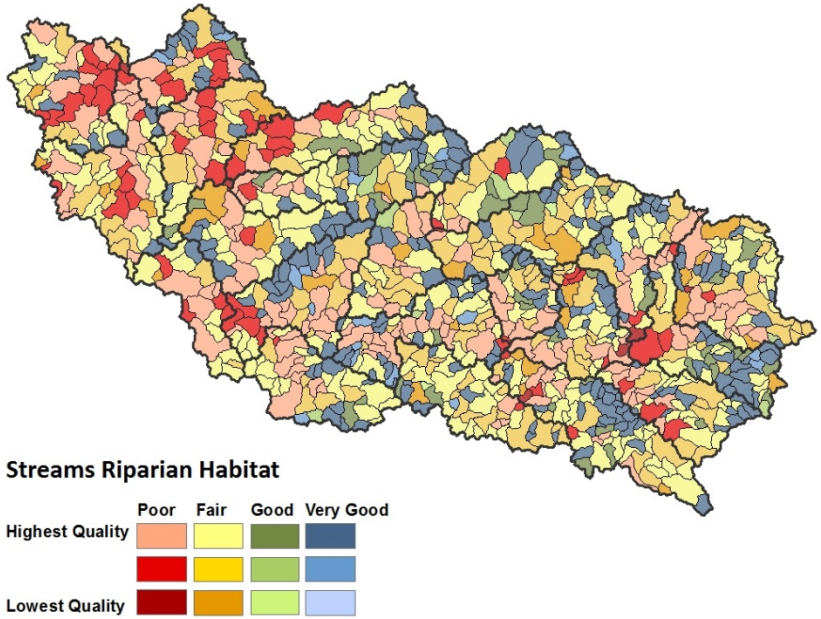




Streams Hydrologic Connectivity

Dams
Roads/Rail
Wetlands
Headwaters
Riparian forest
Local integrity

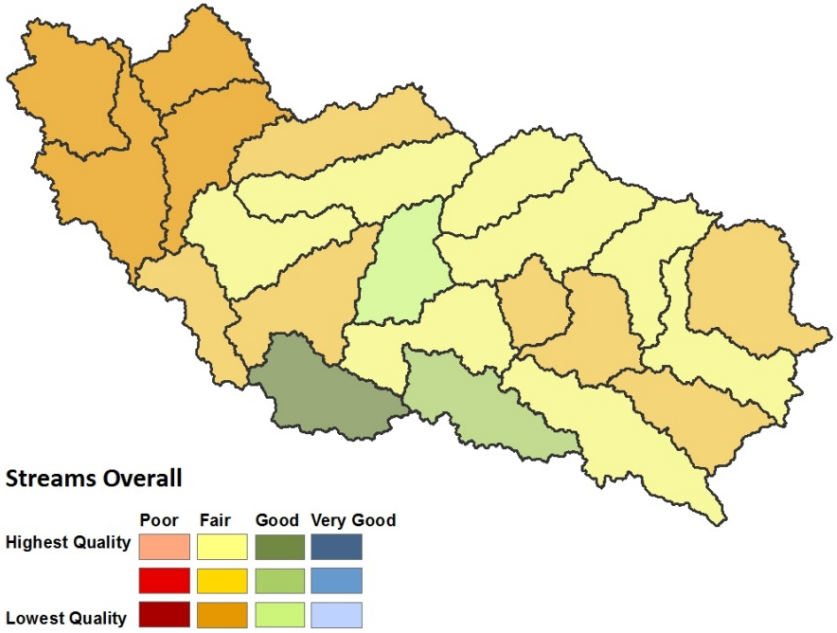


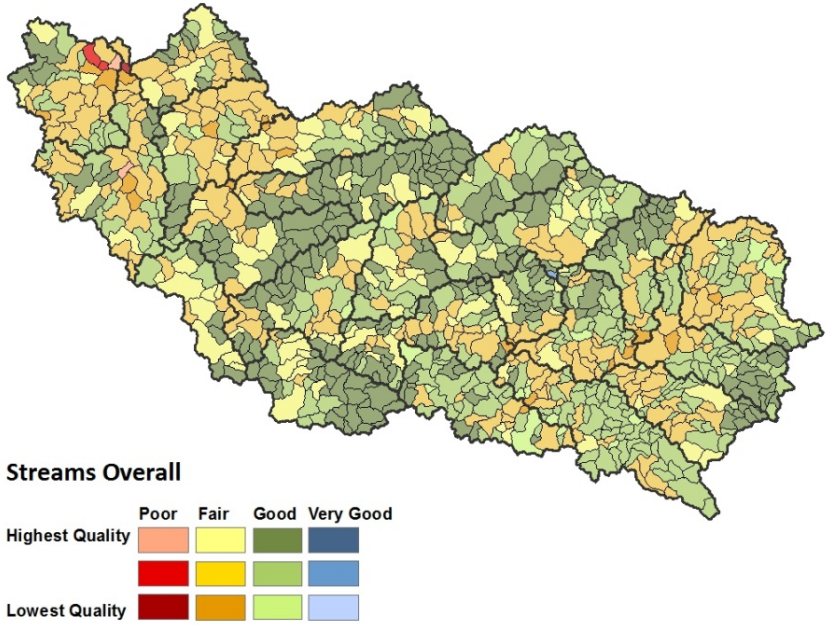


Streams Riparian Habitat

Riparian metrics:
Active surface*
mining
Development*
Wells
Roads
Land Cover

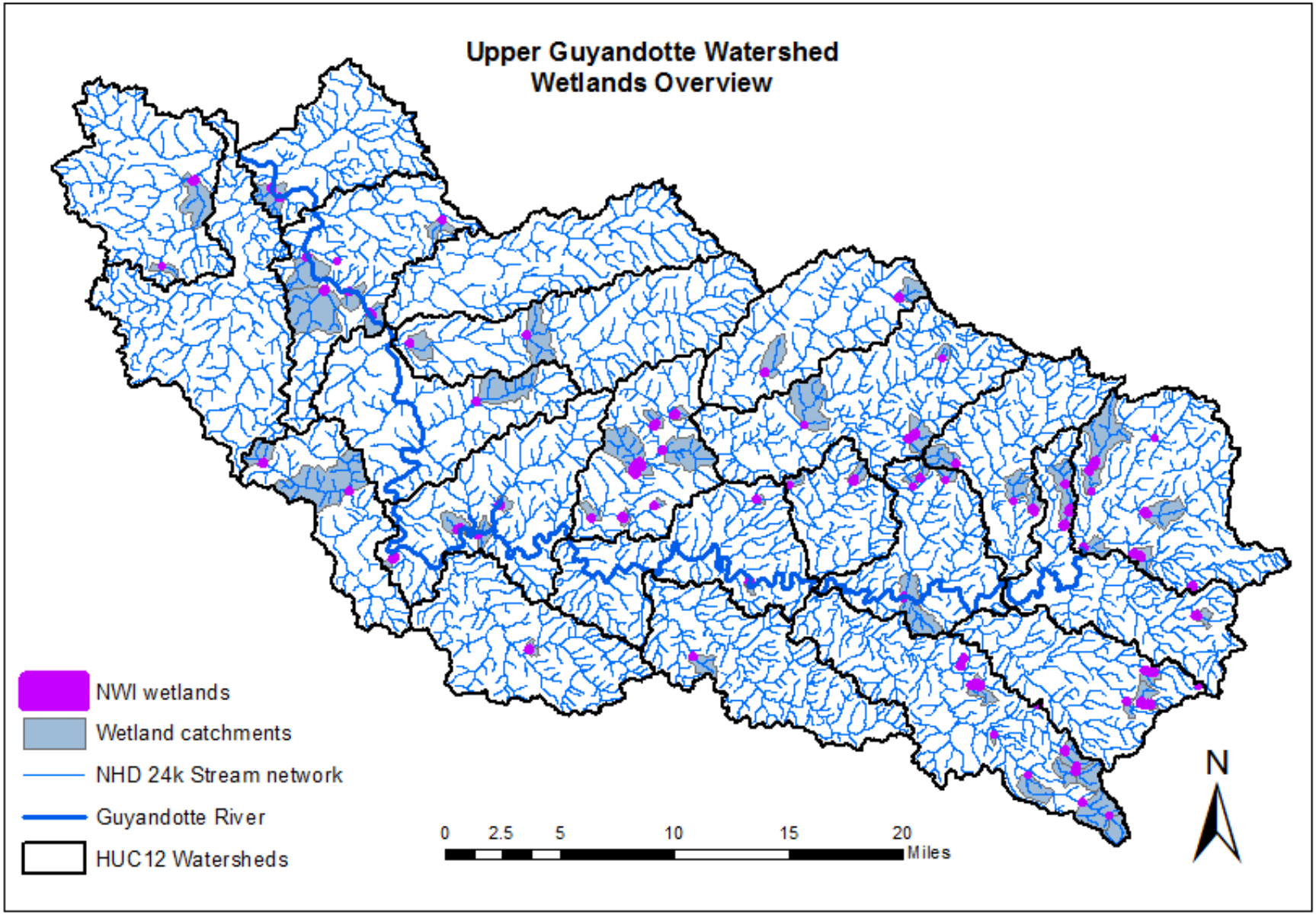
Streams Overall Model

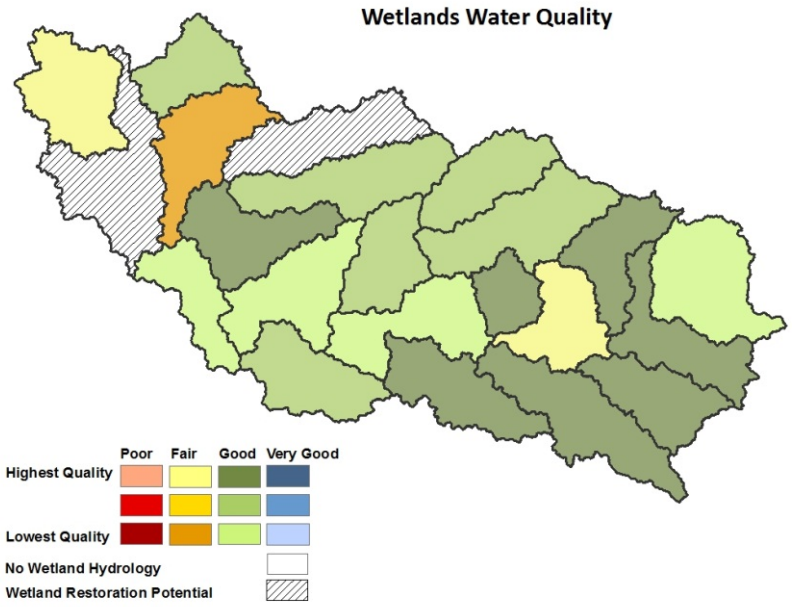


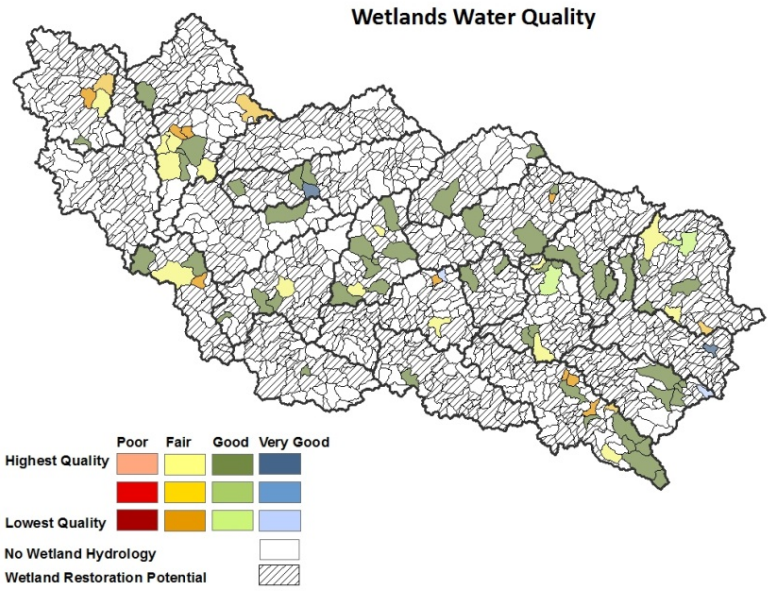


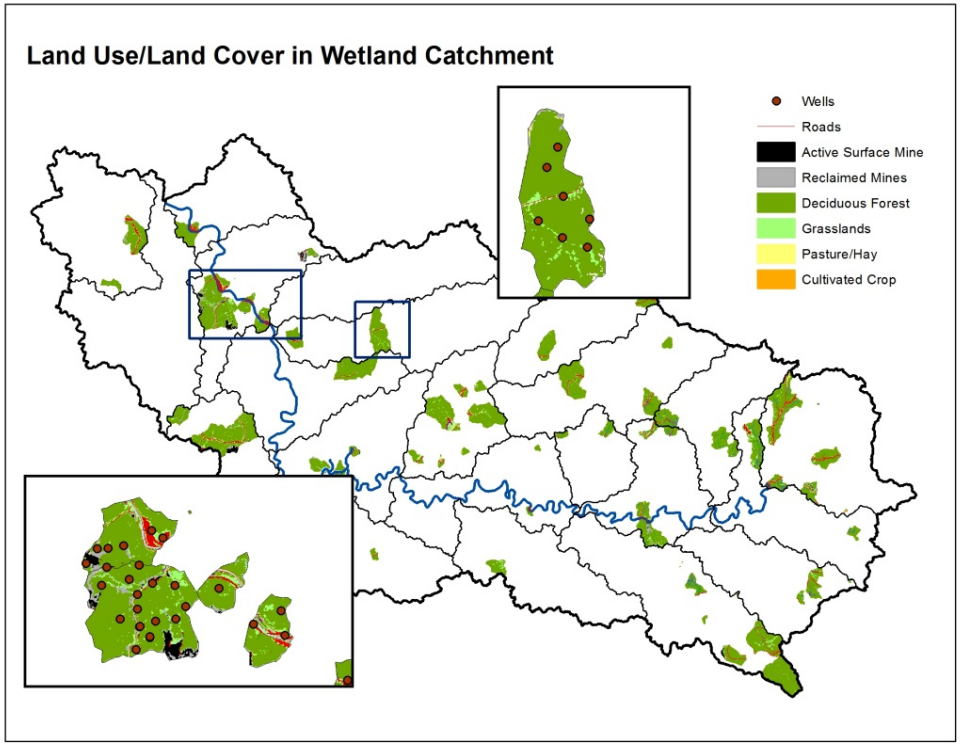
Upper Guyandotte Watershed: Wetlands

Wayne County wetland Argus Energy


Upper Guyandotte Watershed
Wetlands Overview
NWI wetlands
Wetland catchments
NHD 24k Stream network
Guyandotte River
HUC12 Watersheds
0
2.5
5
10
15
20
Miles
N

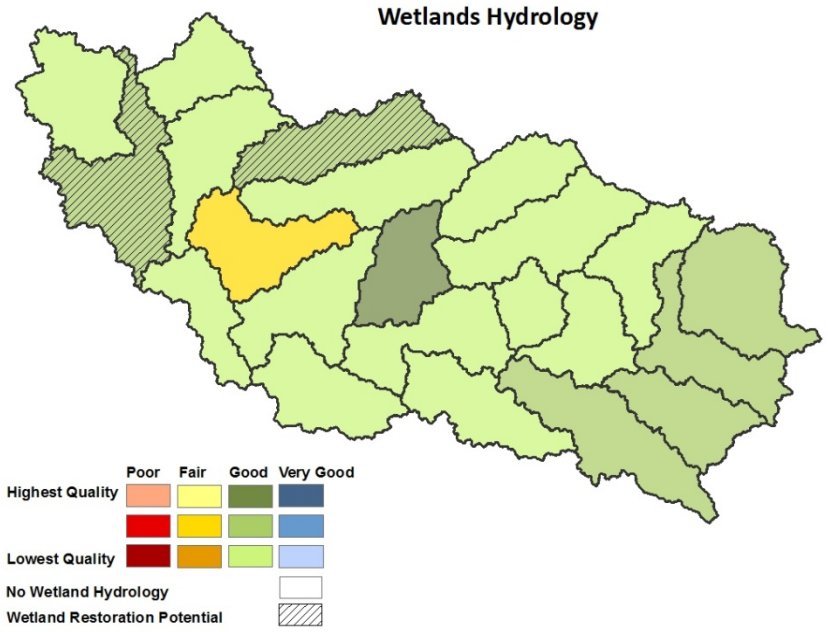


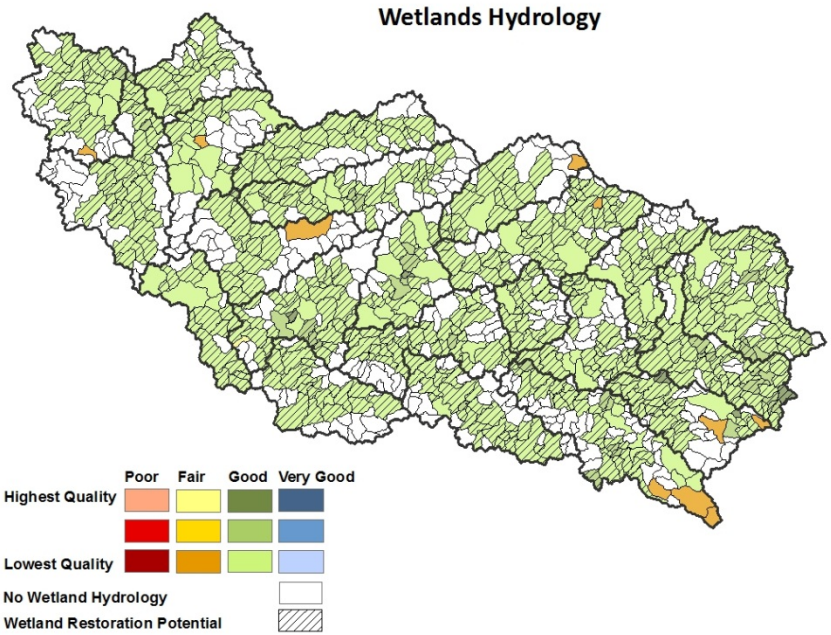


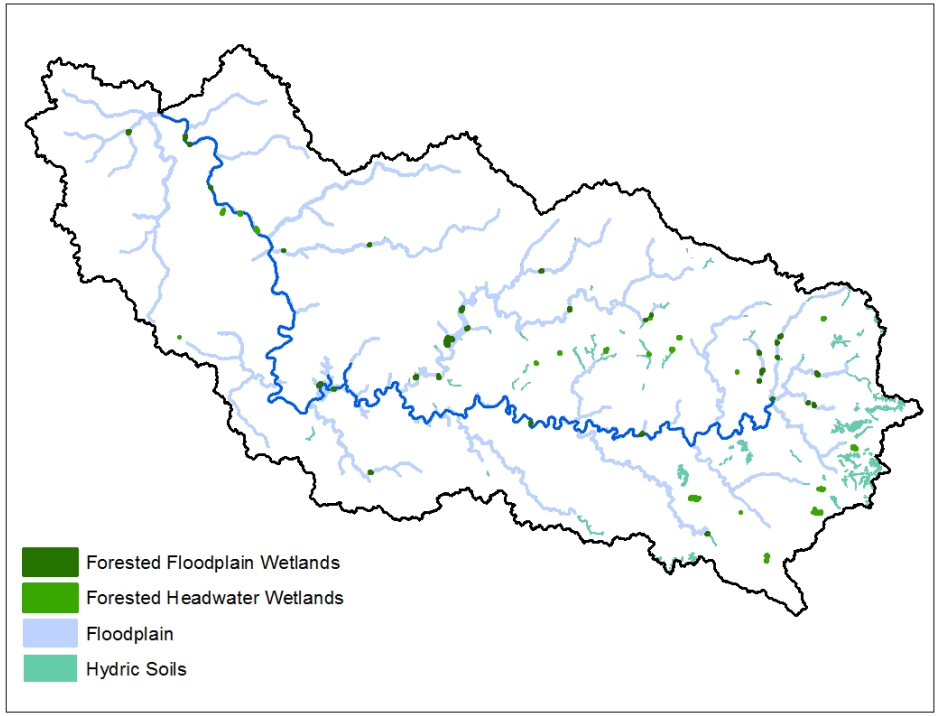


Wetlands Water Quality

Wetland catchment metrics:
Land use/Land cover
Impervious surface
Wells
Active surface mining
Roads & rail
Forested headwater wetlands



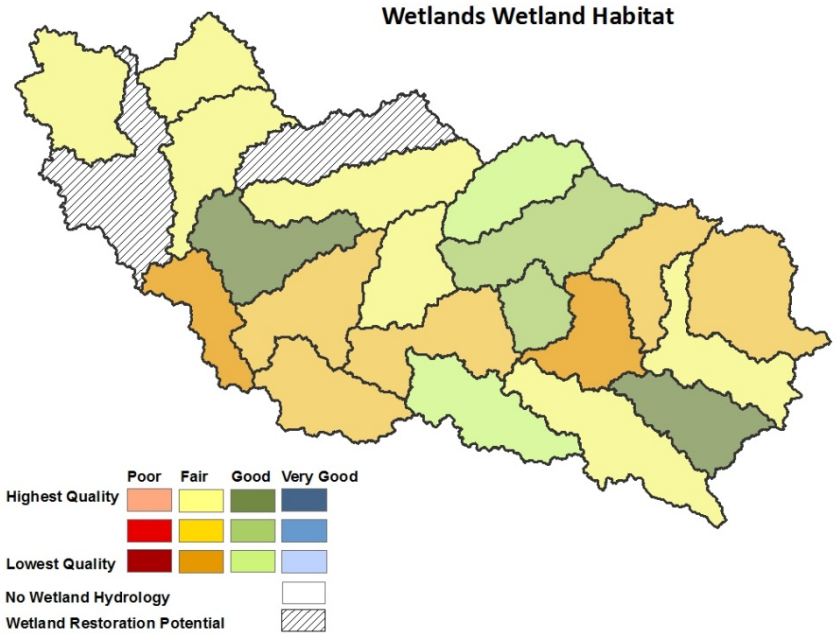


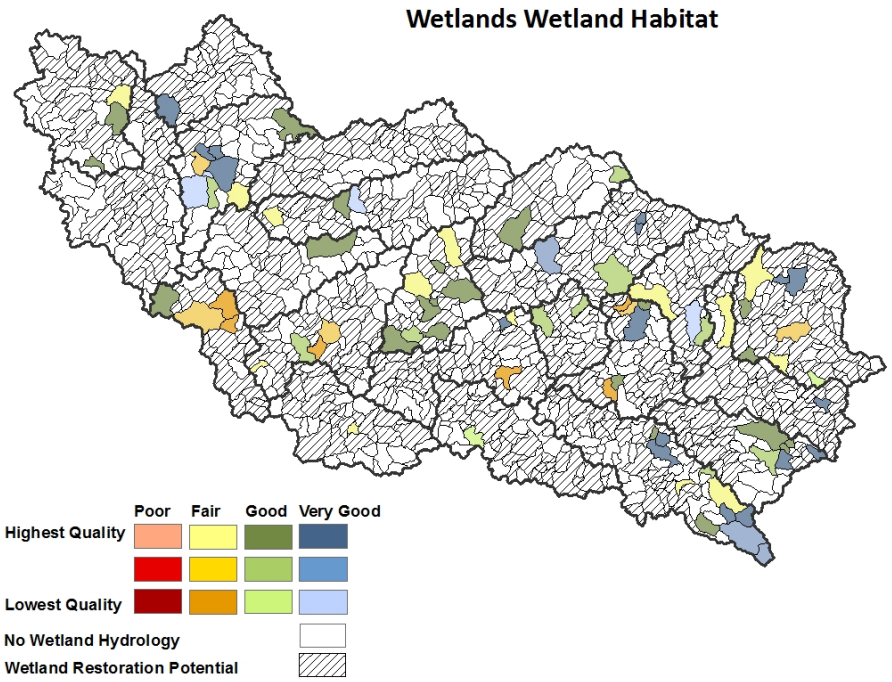


Wetland area
Forested wetlands
Floodplain
Hydric soils

Wetlands Hydrology

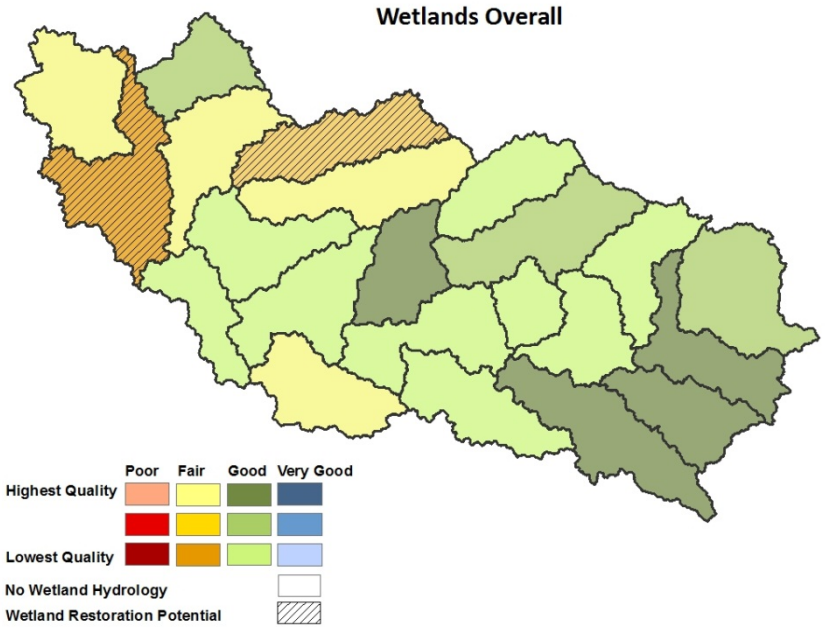
Wetlands Wetland Habitat

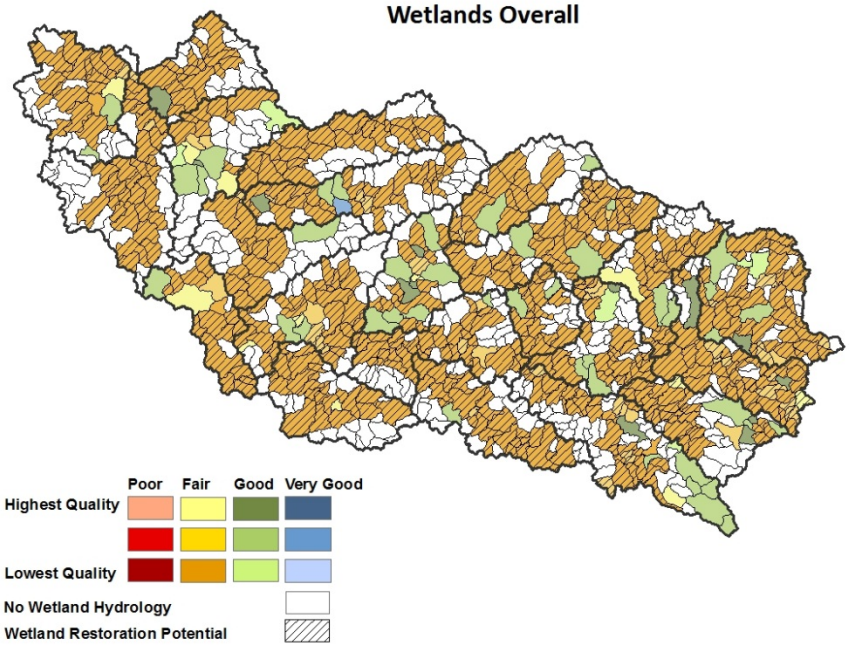




Wetland buffer metrics:
Active surface mining*
Development*
Legacy surface mining
Land use/Land cover
Forest size
Roads & rail
Wells

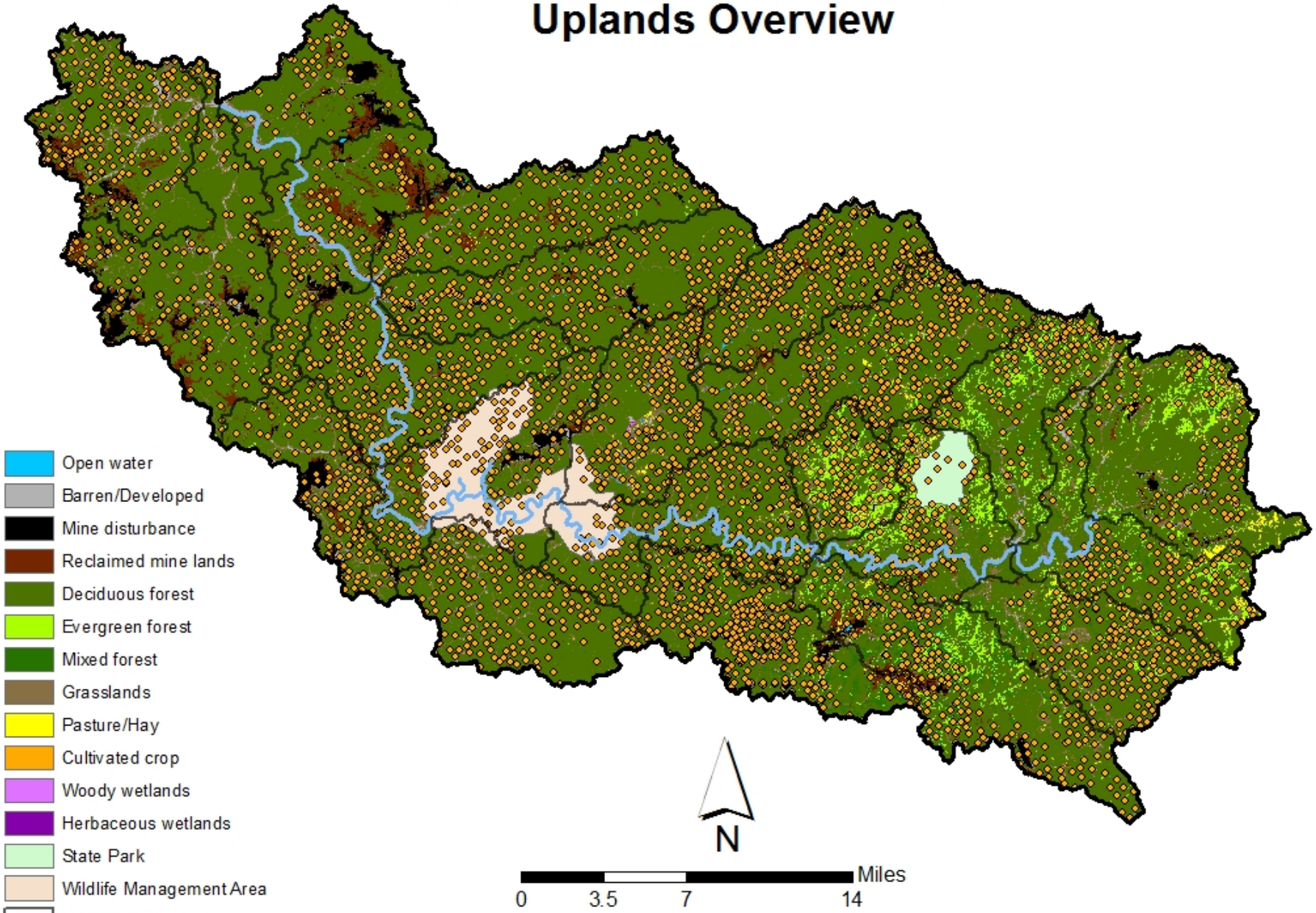
Wetlands Model Overall

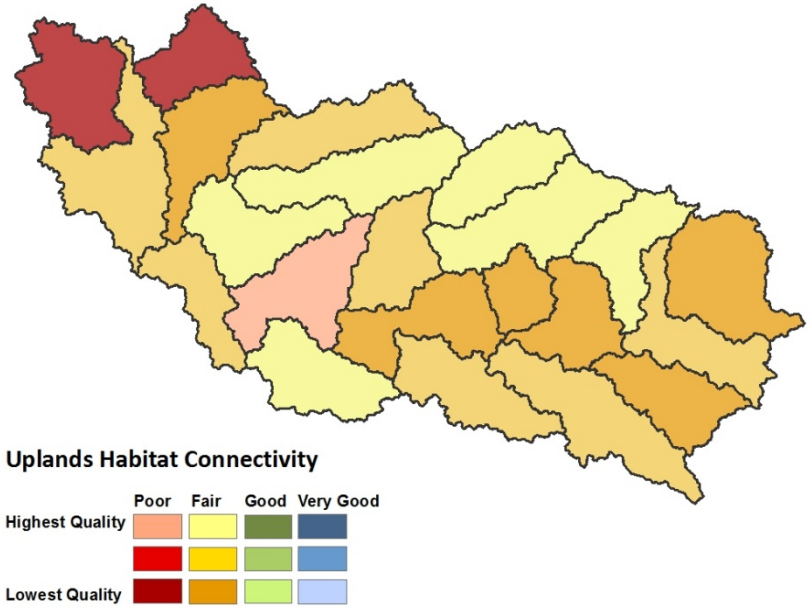


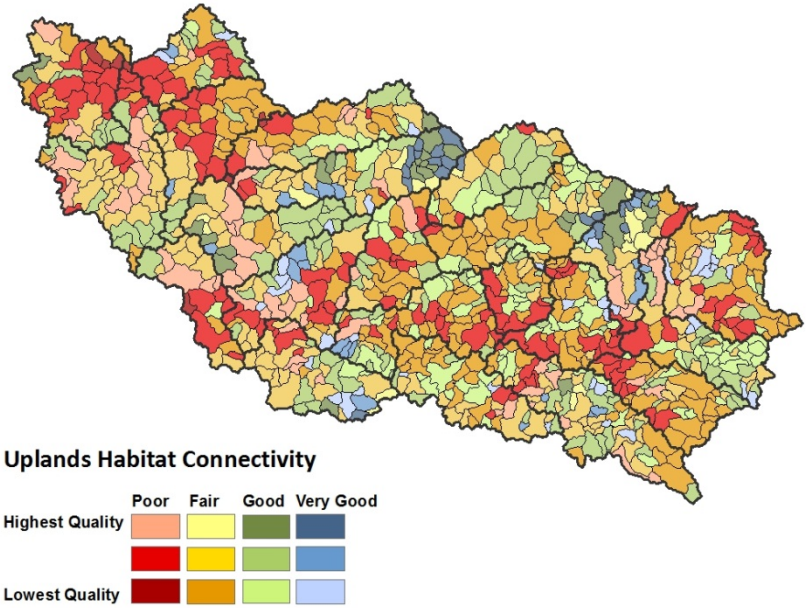


Upper Guyandotte Watershed: Uplands

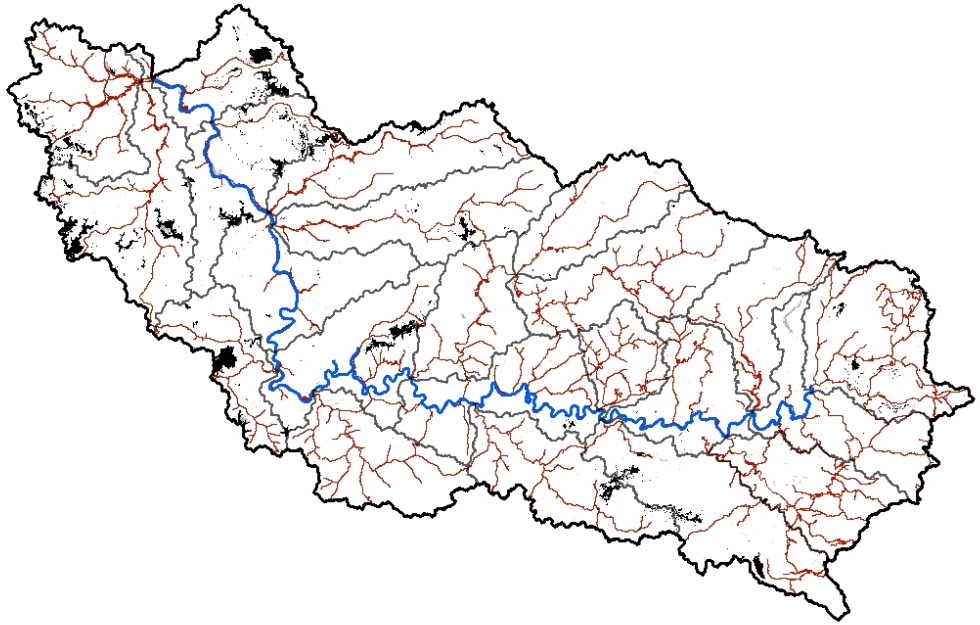
Upper Guyandotte Watershed
Uplands Overview



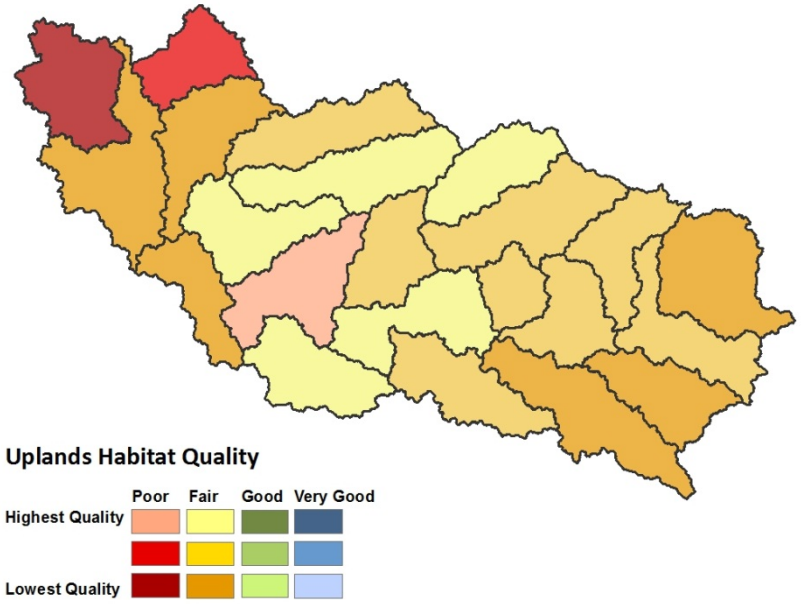


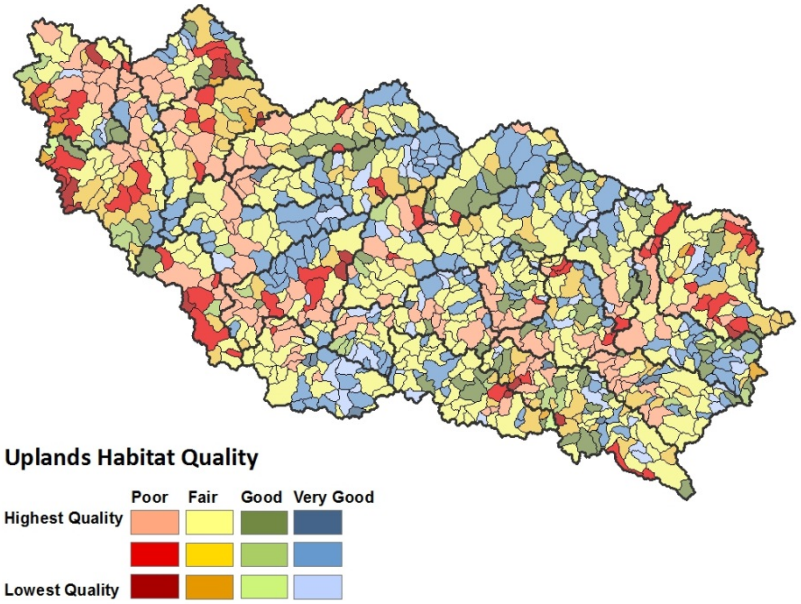


Uplands Habitat Connectivity

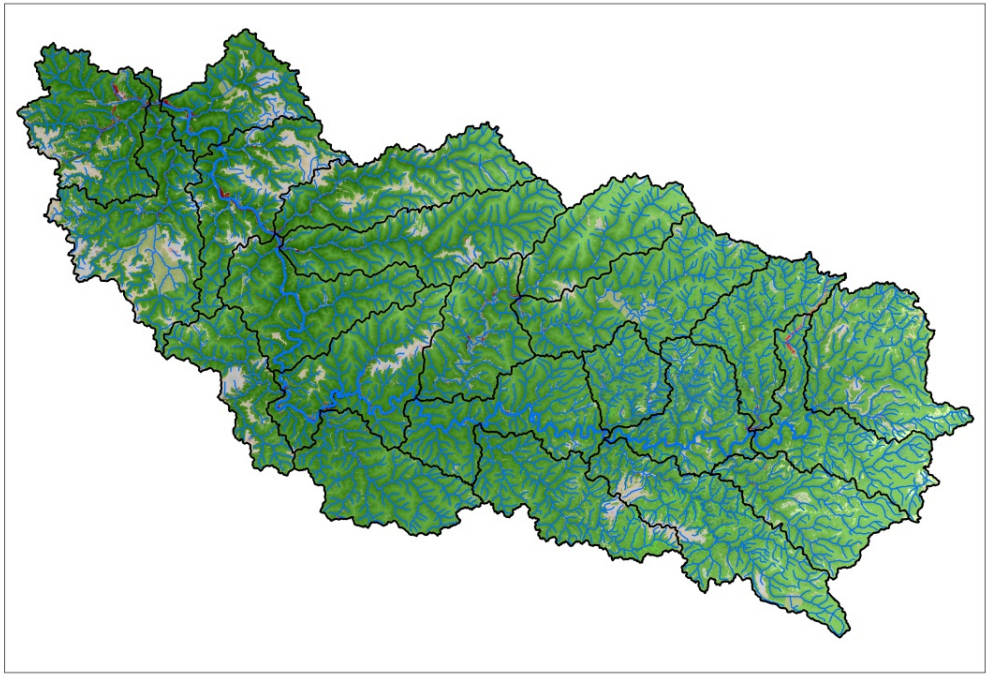


Active surface Mining*
Development*
Legacy surface mining
Roads & rail
Natural cover
Timber harvest
Wells
Energy lines



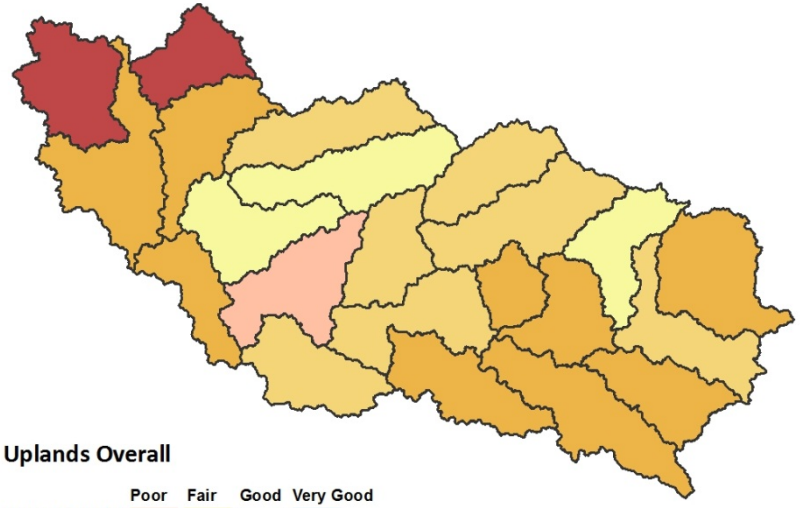


Uplands Habitat Quality



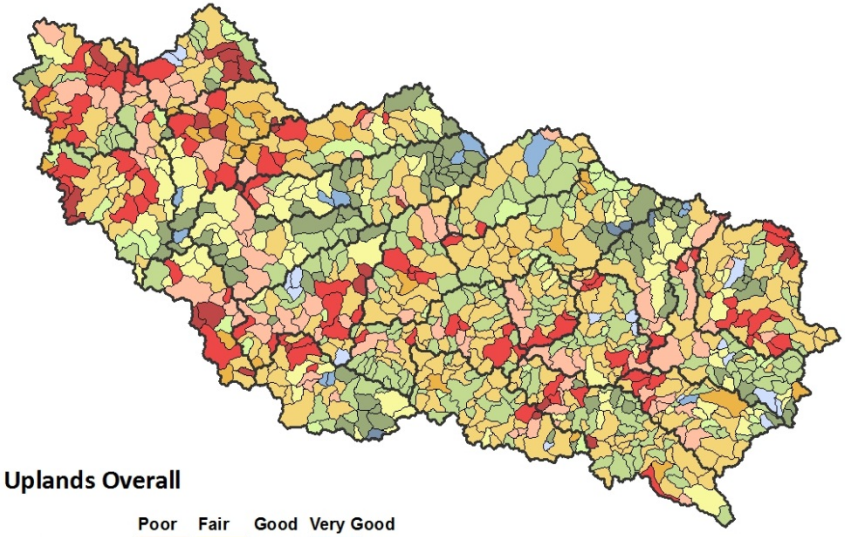
Active surface Mining*
Development*
Legacy surface mining
Timber harvest
Natural cover
Heterogeneity

Uplands Model Overall



Uplands Overall

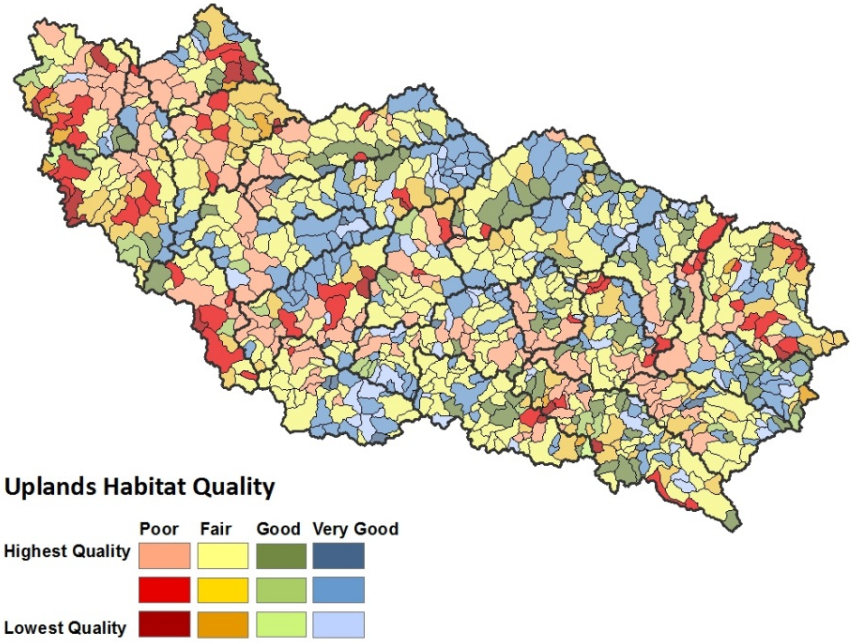
	Poor	Fair	Good	Very Good
Highest Quality				
Lowest Quality				



Uplands Overall

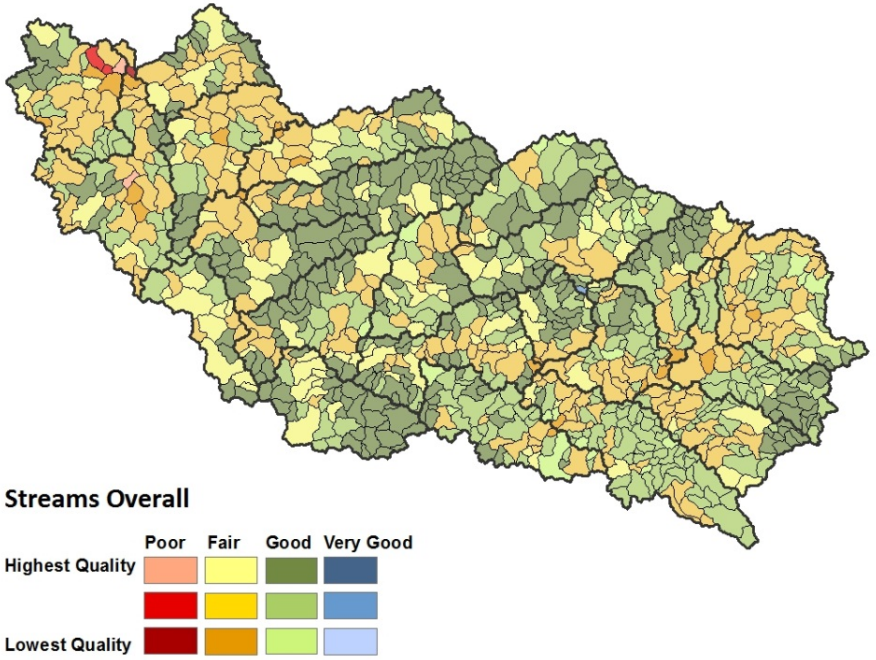
	Poor	Fair	Good	Very Good
Highest Quality				
Lowest Quality				

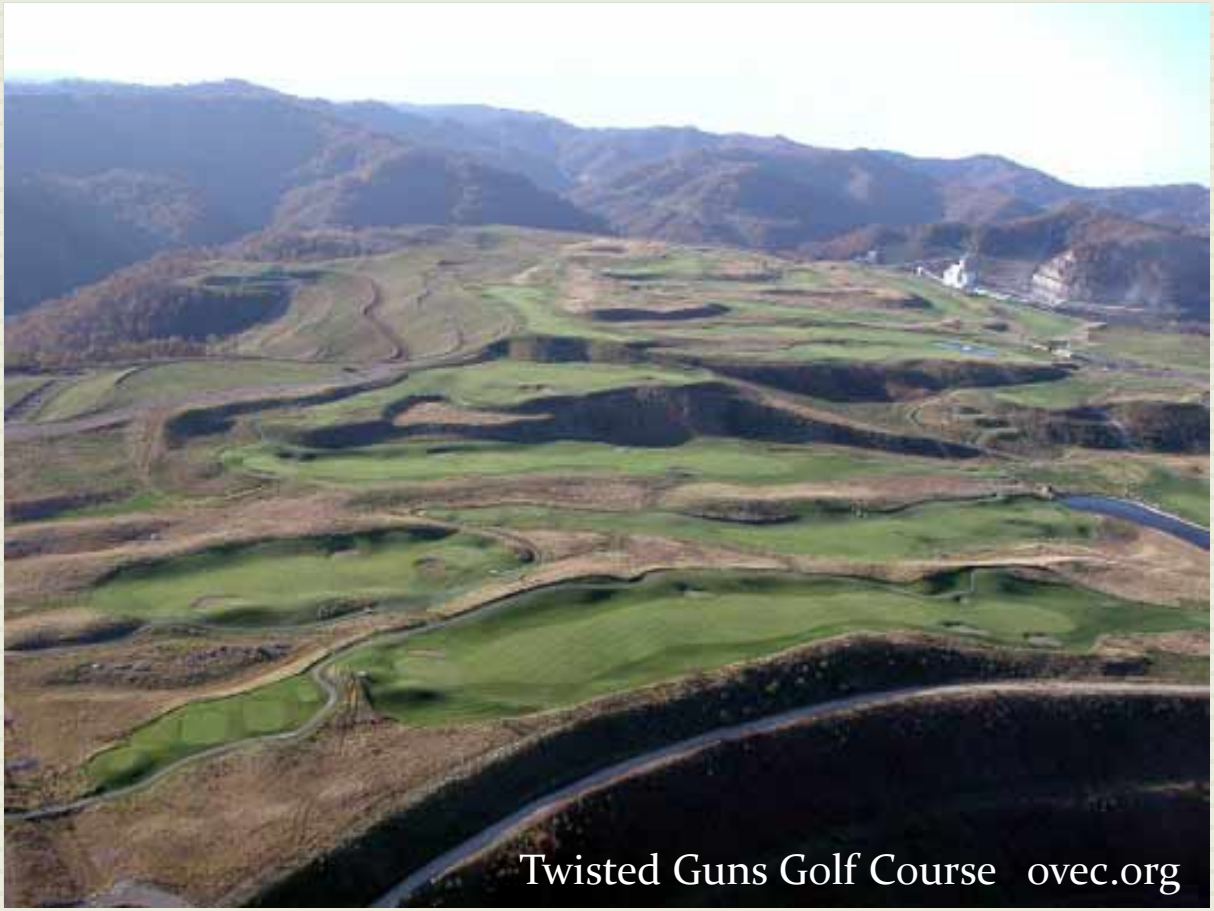
Findings



Areas suitable for protection or restoration exist throughout the Upper Guyandotte

Higher quality areas for potential protection tend to be in the central portion of the watershed

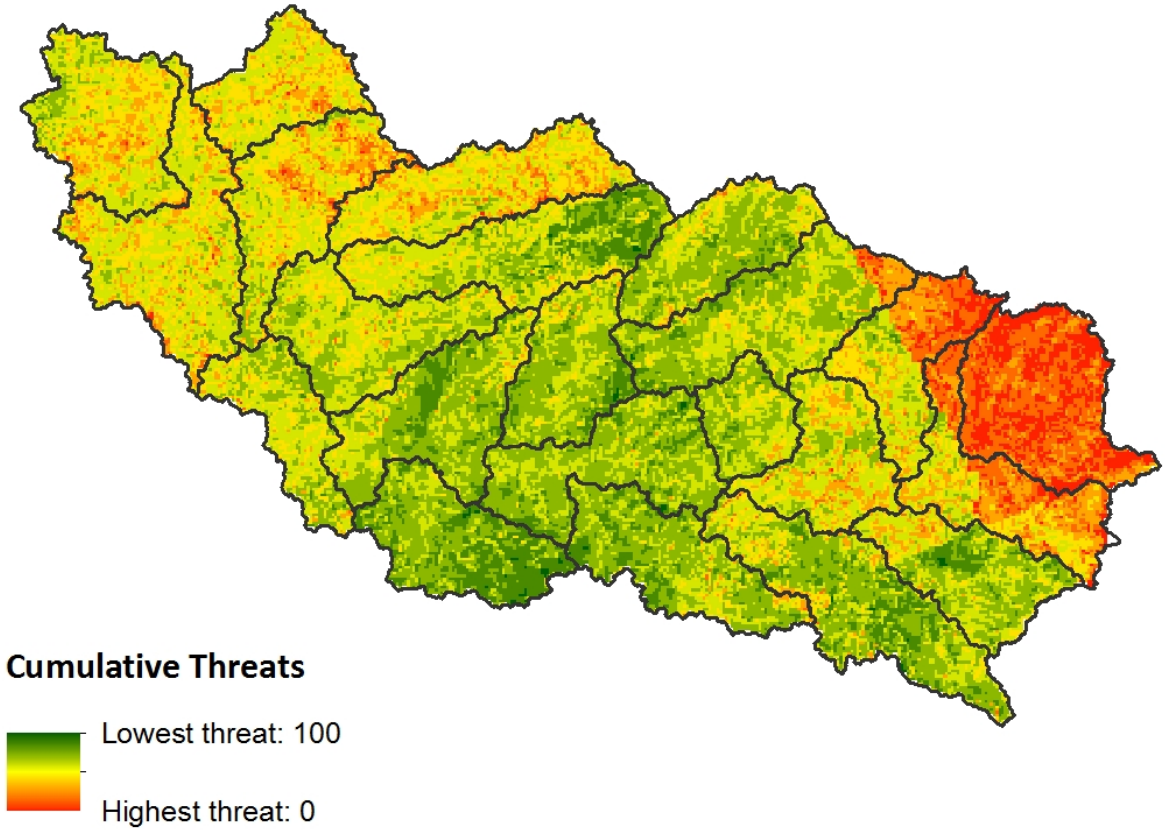




COMMENTS/QUESTIONS?

Upper Guyandotte Watershed: Consolidated Analysis

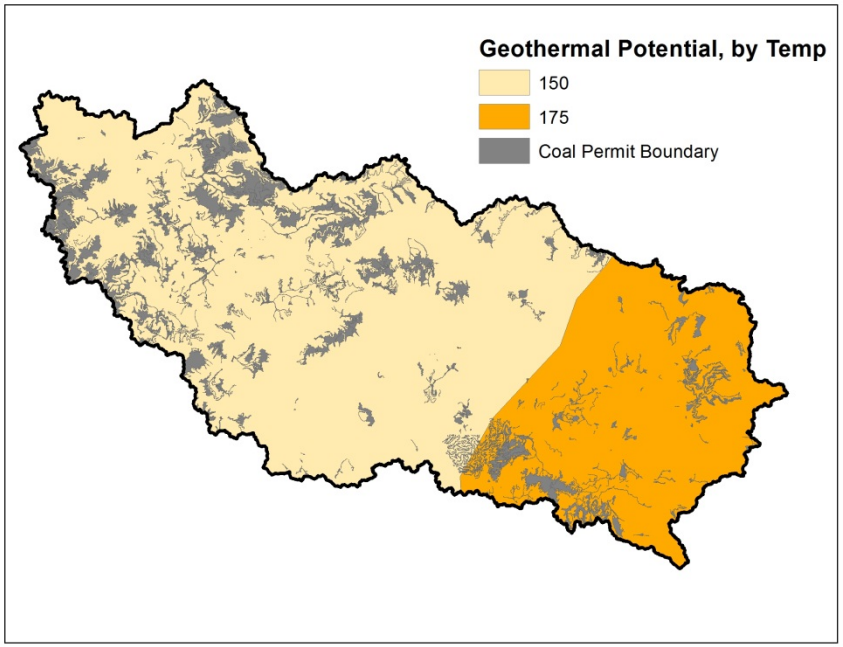
Threats Analysis Overall

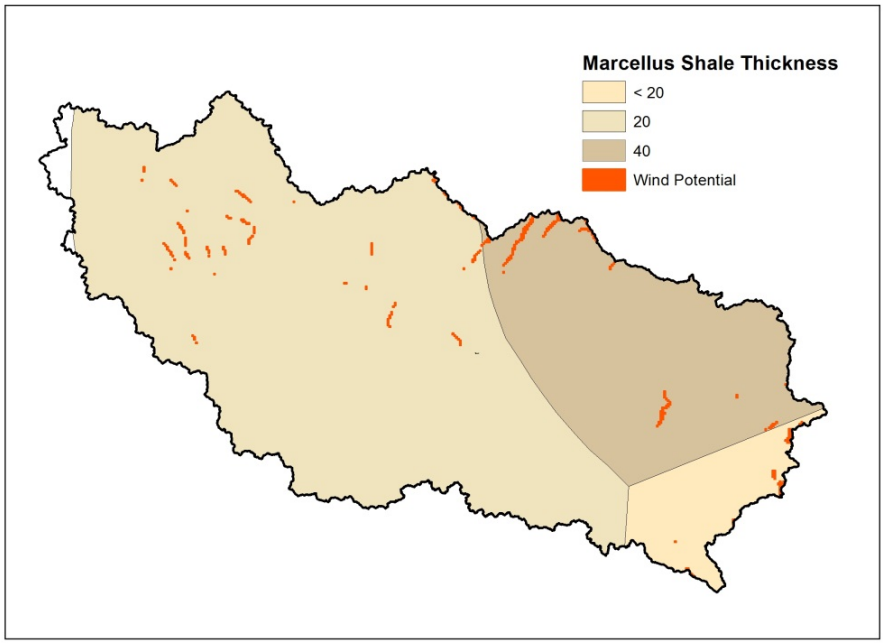


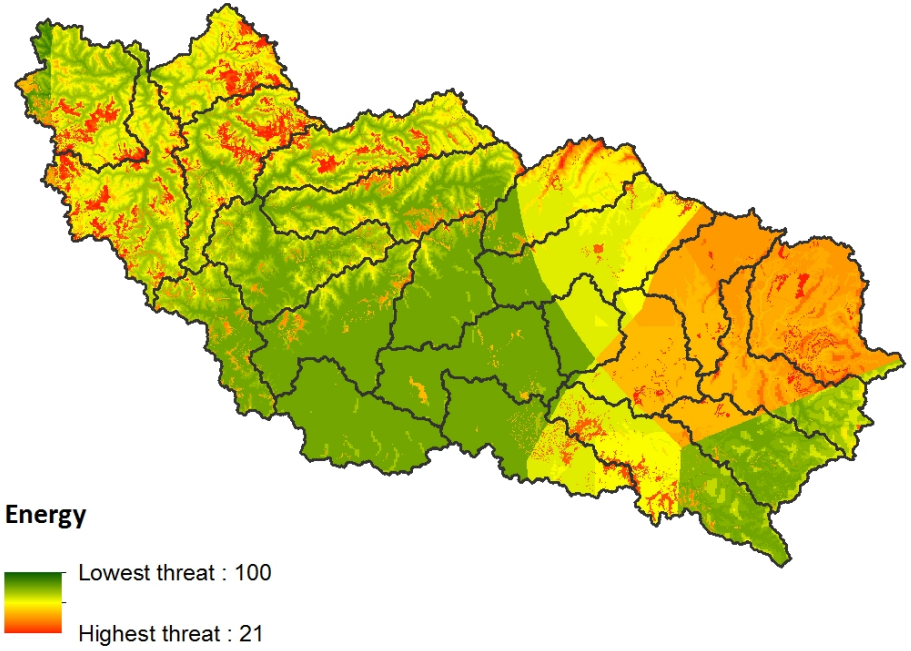
Energy: Unmined coal, Marcellus shale thickness, Wind development potential, Proposed transmission lines/pipelines/power plants/wind, Geothermal development potential

Population/Development: Population projections, Development plans, Future roads, Proposed wastewater plants/dams/water withdrawals

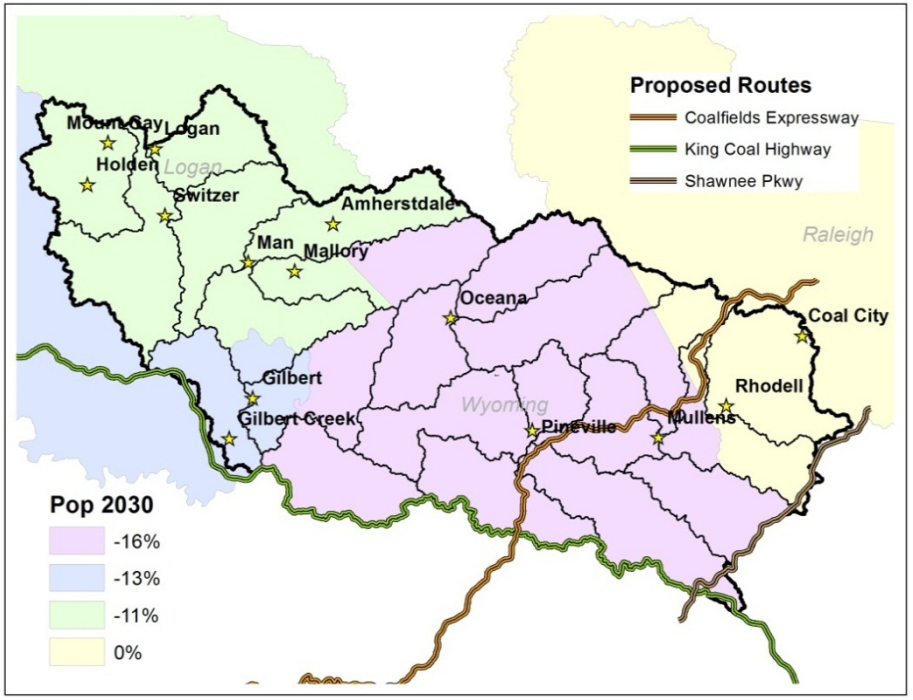
Climate Change: TNC Resiliency & Current density models,

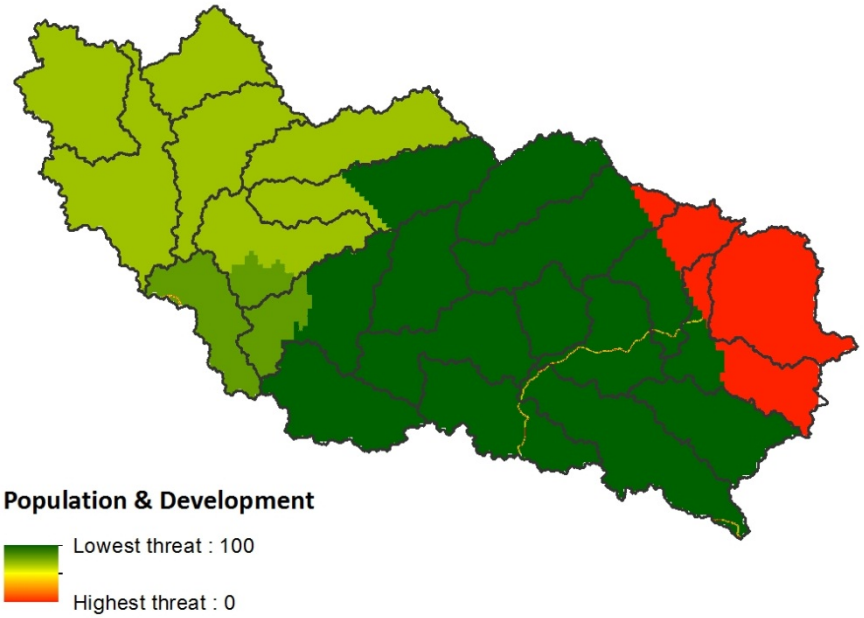




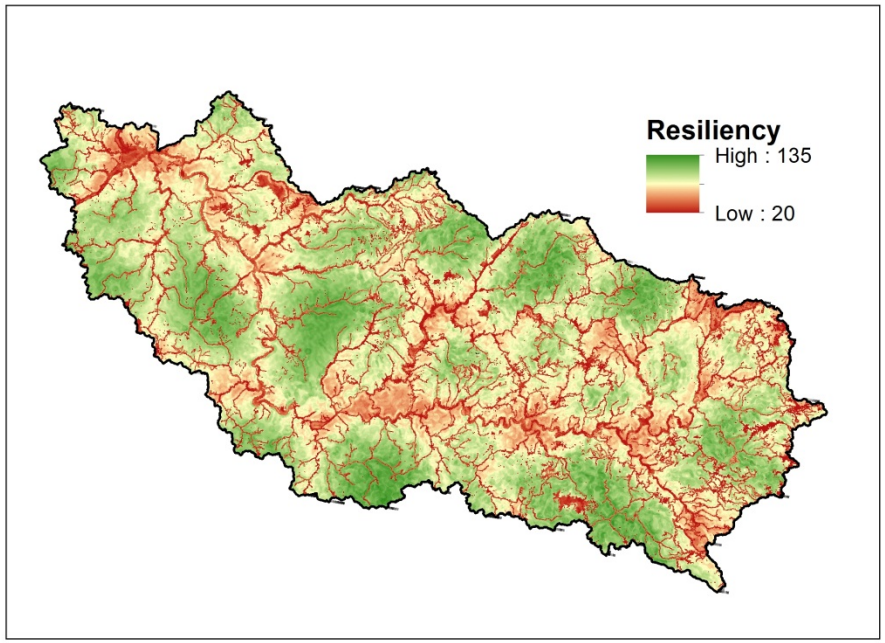


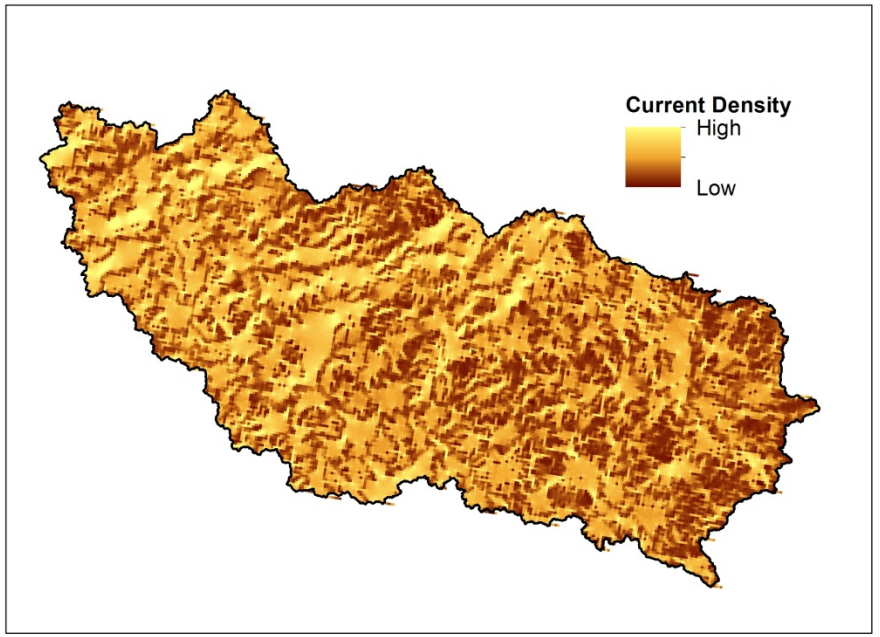
Threats Analysis Energy

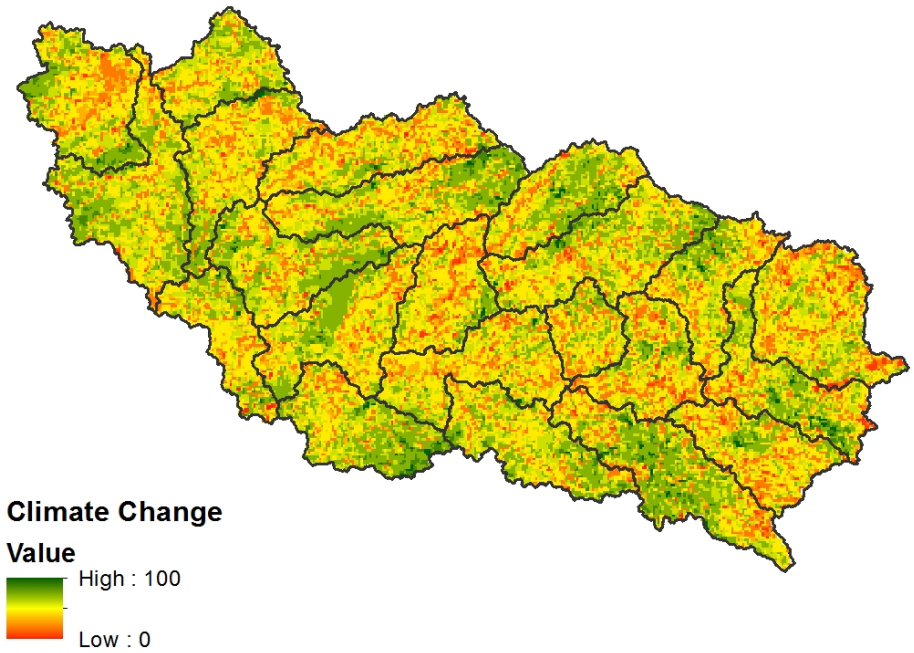




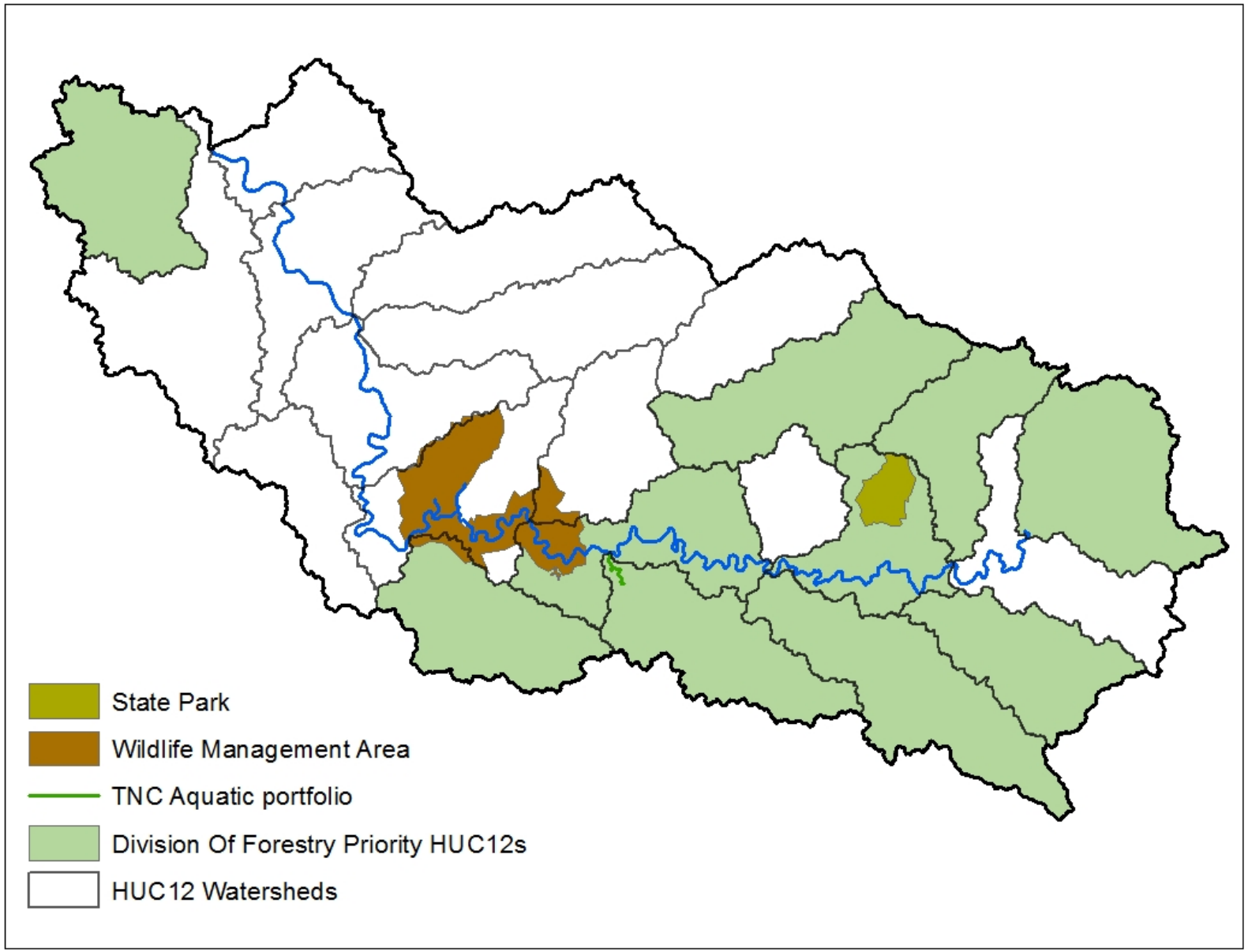
Threats Analysis Population & Development



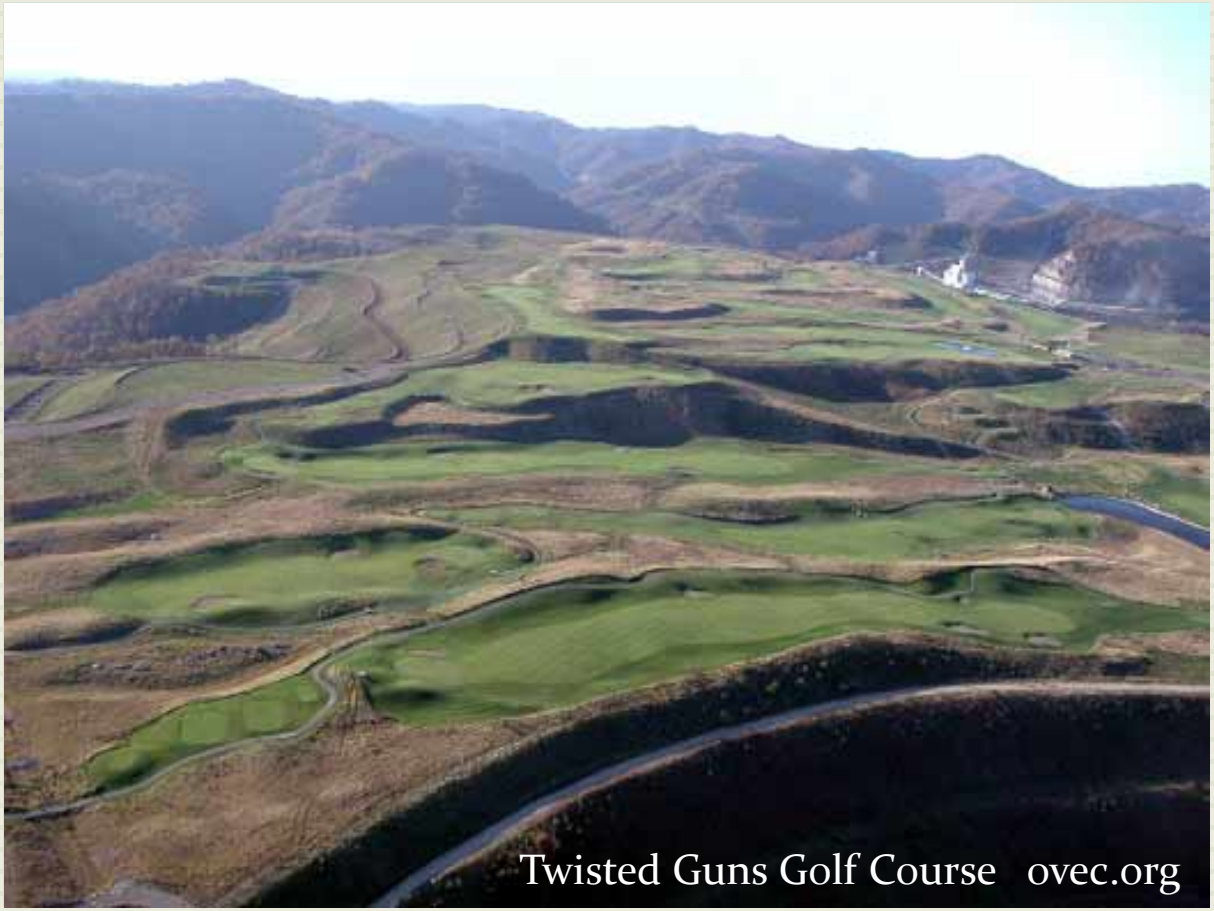




Threats Analysis Climate Change

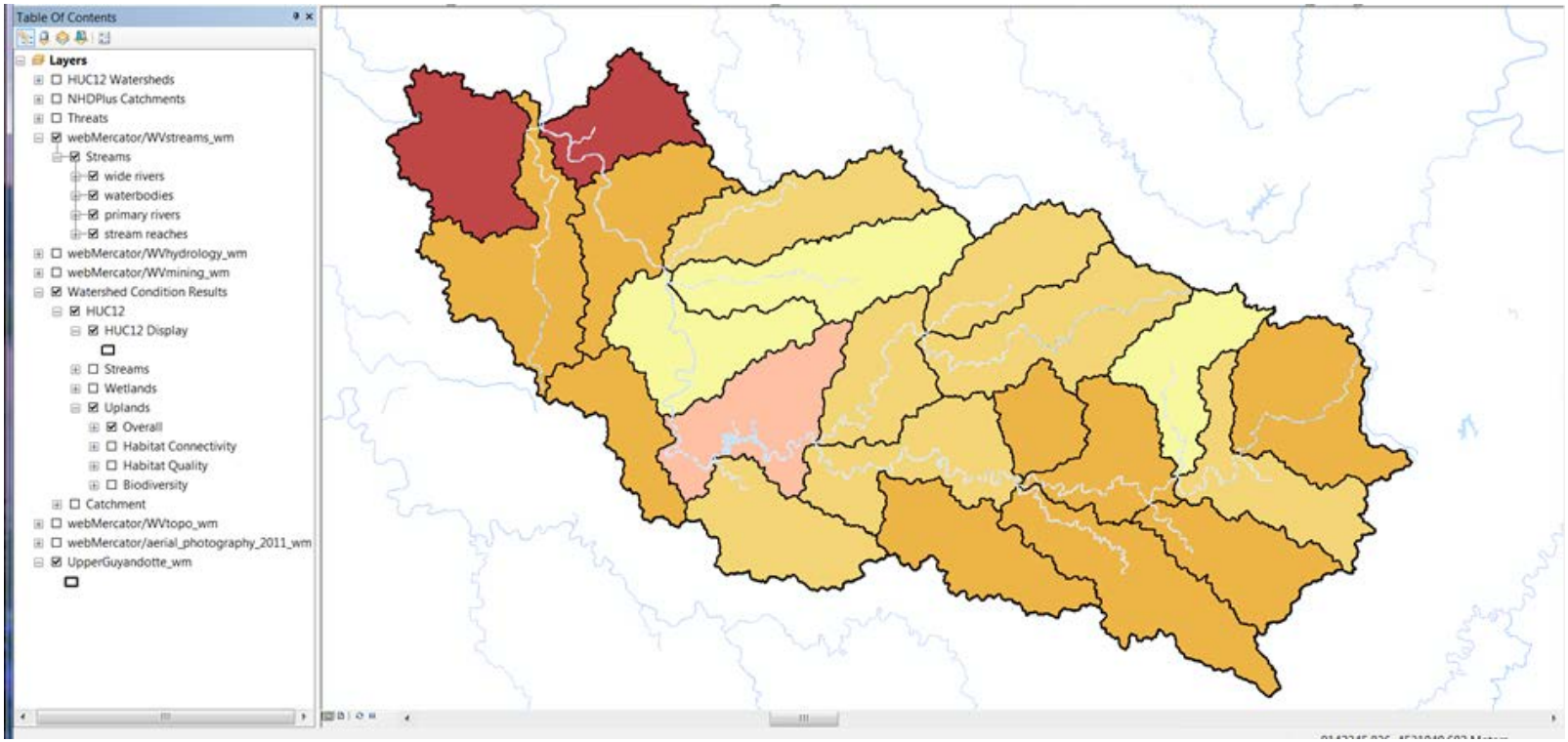


Opportunities



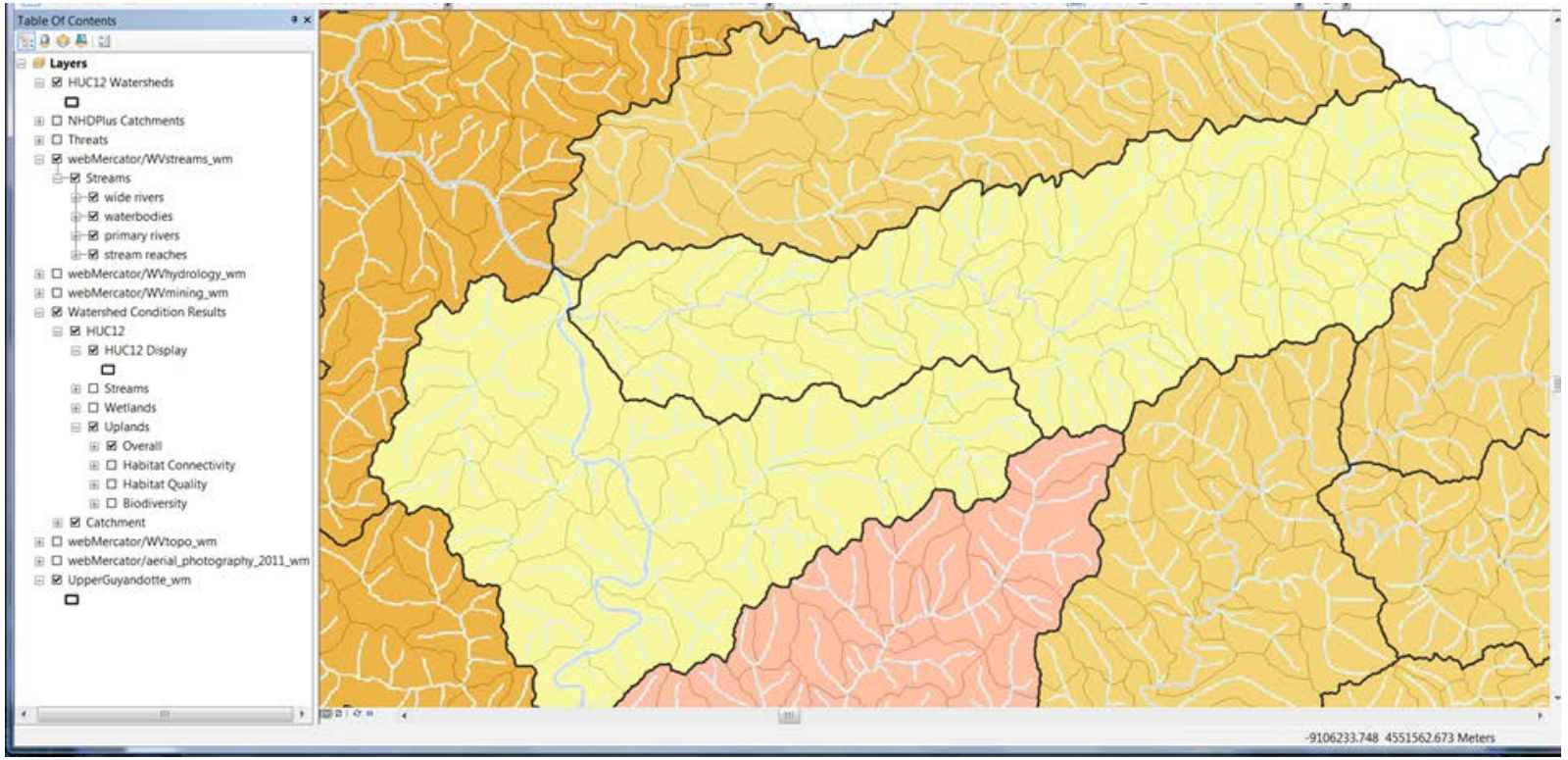
COMMENTS/QUESTIONS?

Uplands Protection Example

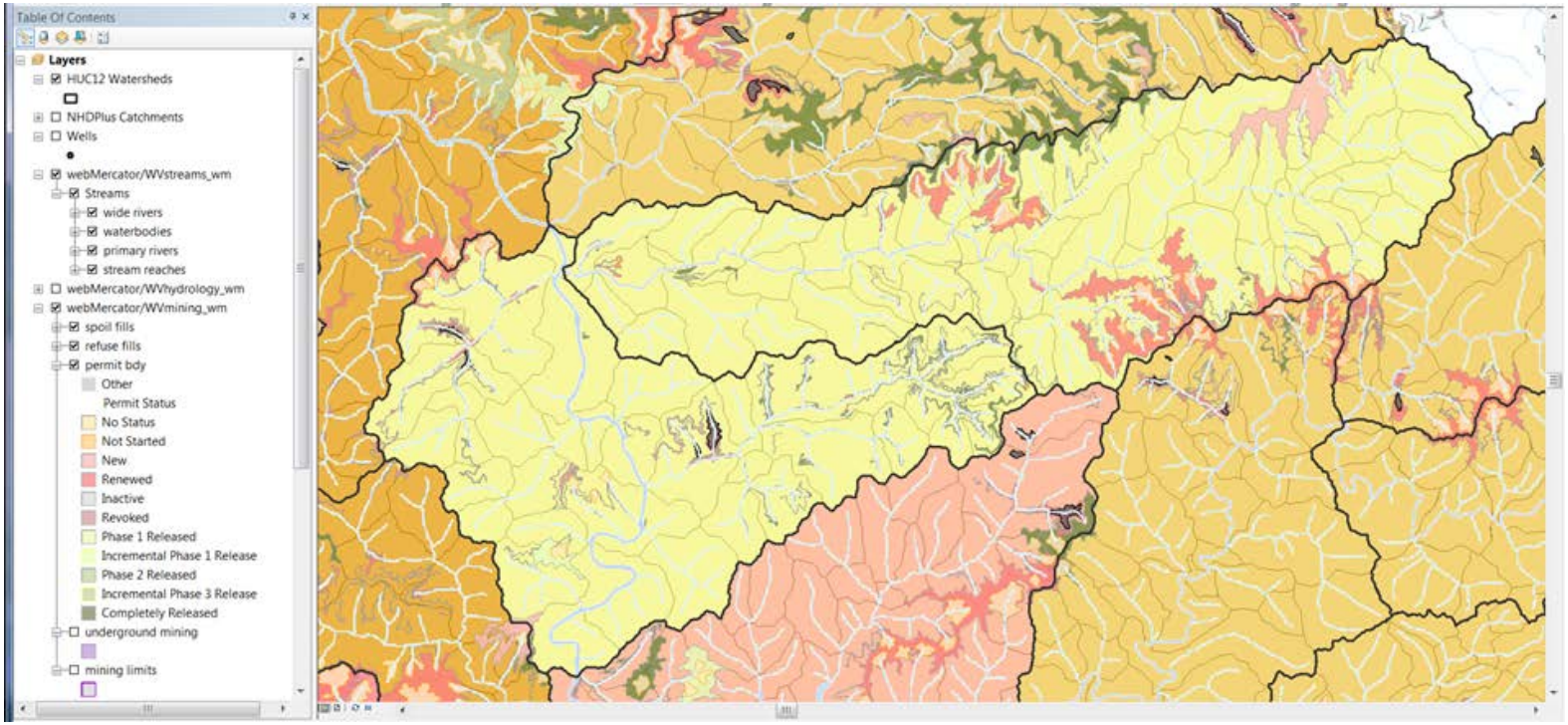


Display HUC12 Uplands Overall; look for highest quality

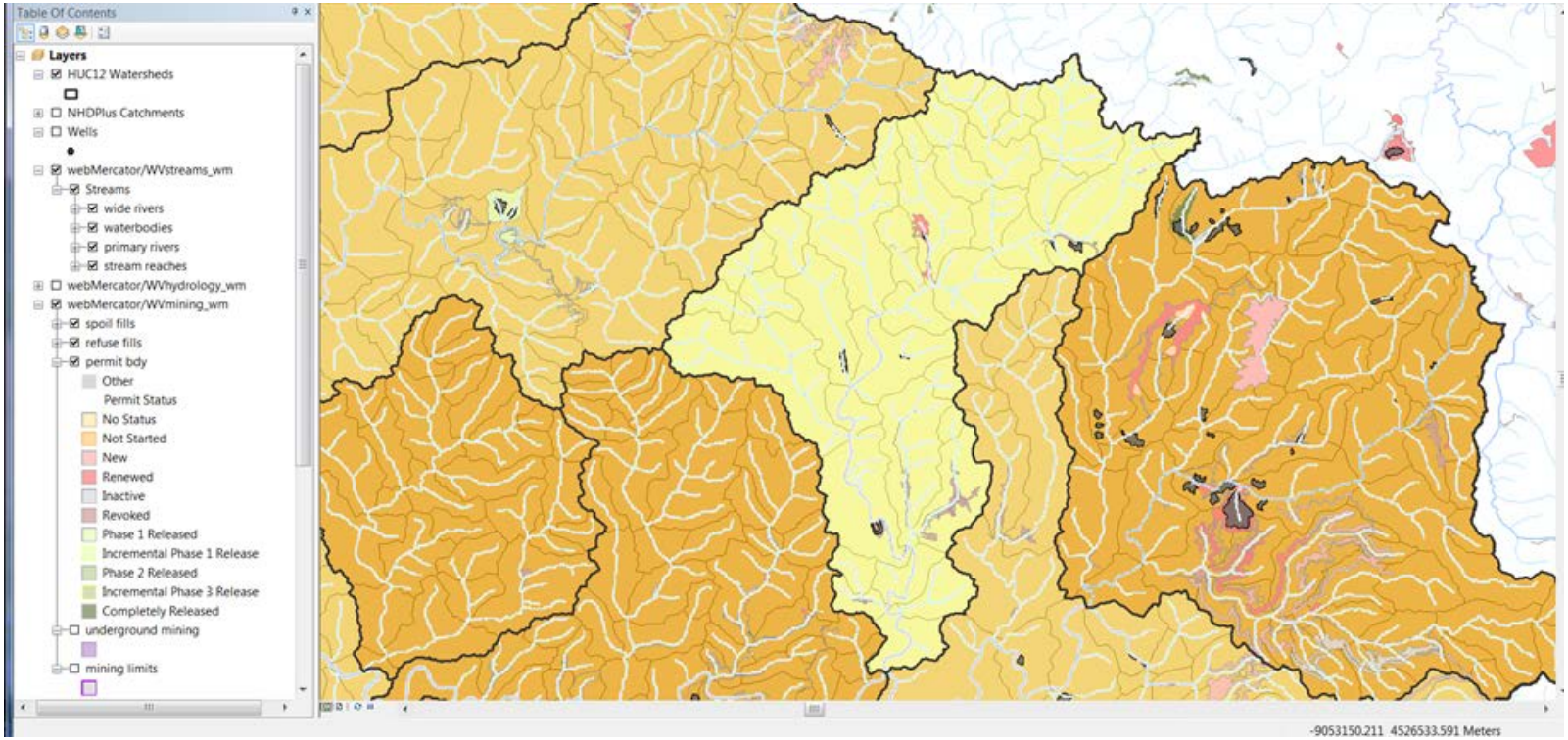
Zoom to candidate HUC12



Huff Creek-Elk Creek area

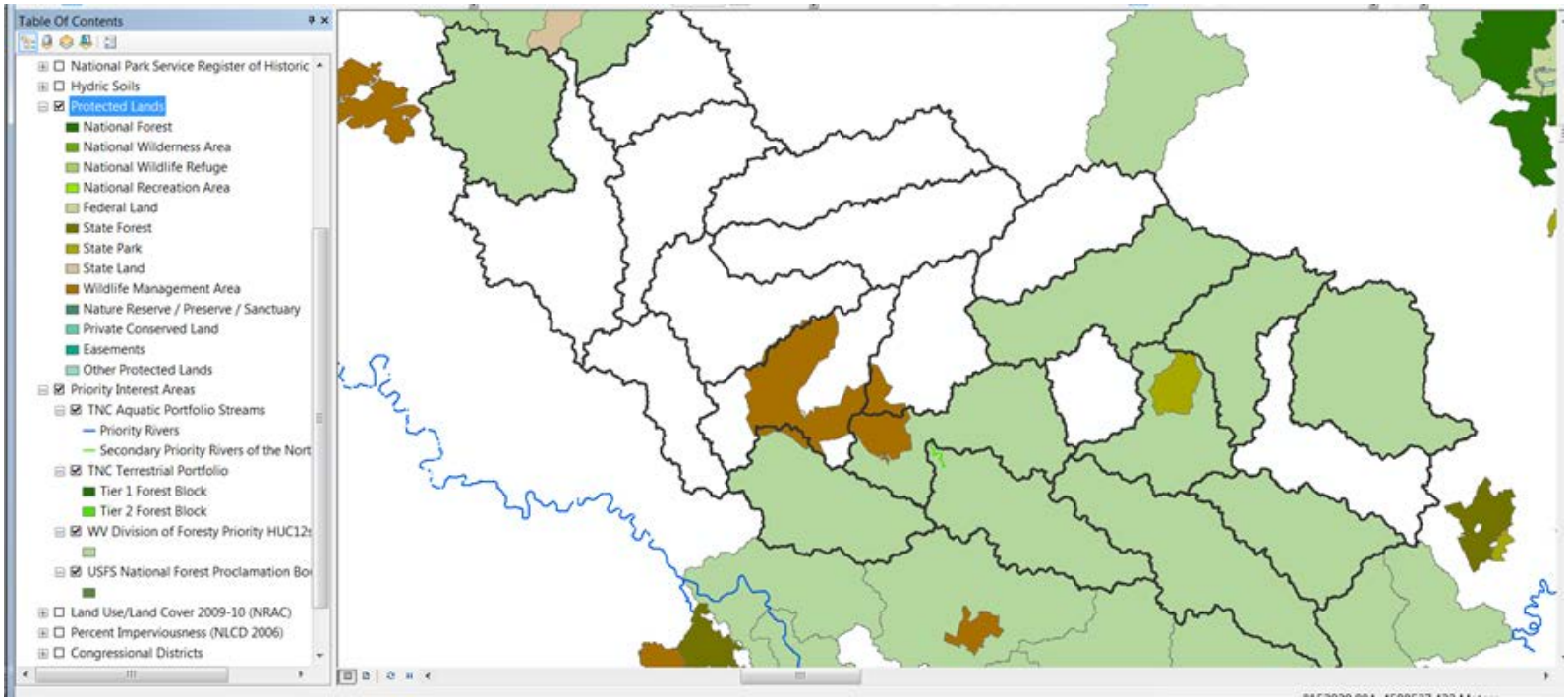


Huff Creek-Elk Creek area with mining layer displayed



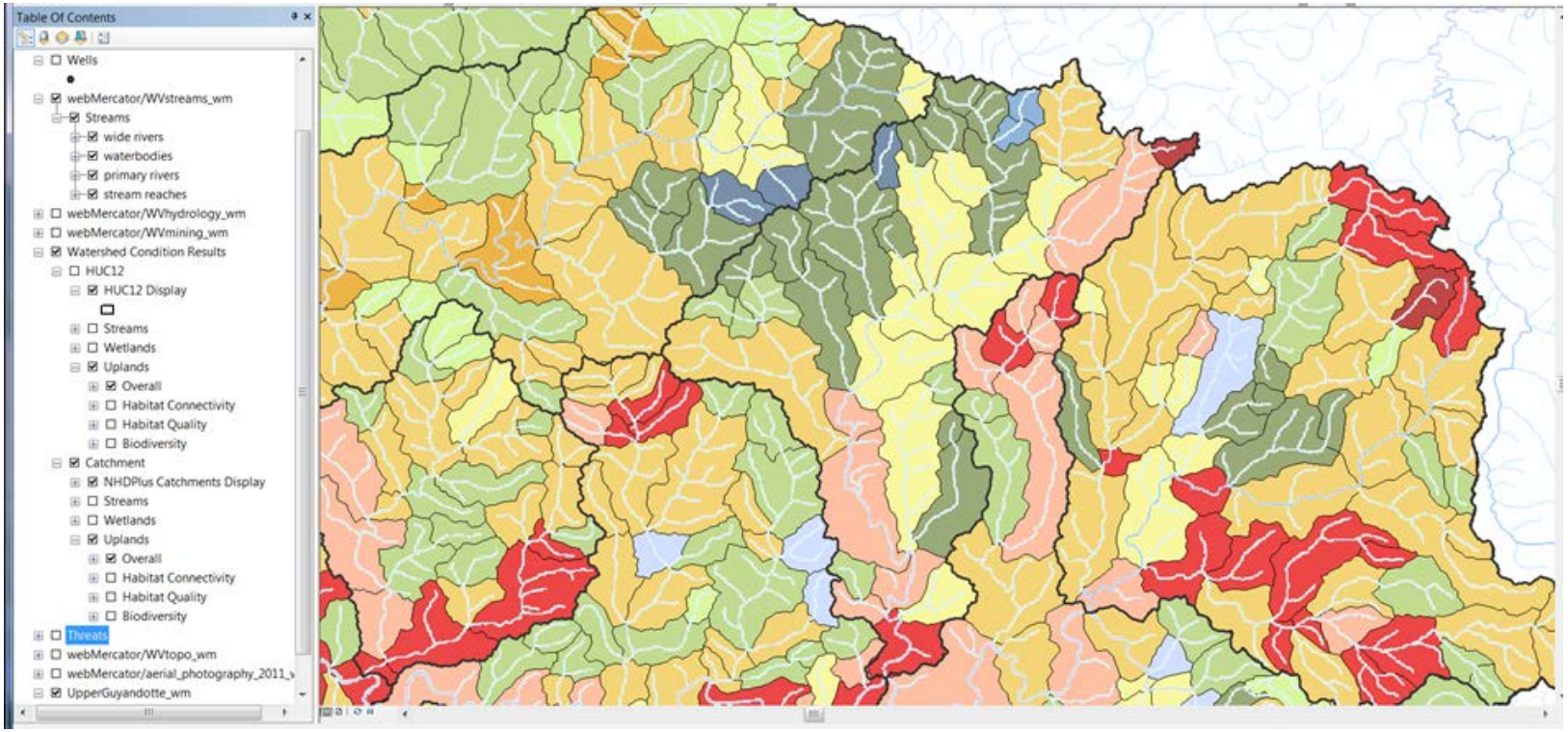
Slab Fork area with mining layer displayed

Display Protected Lands and Opportunities layers

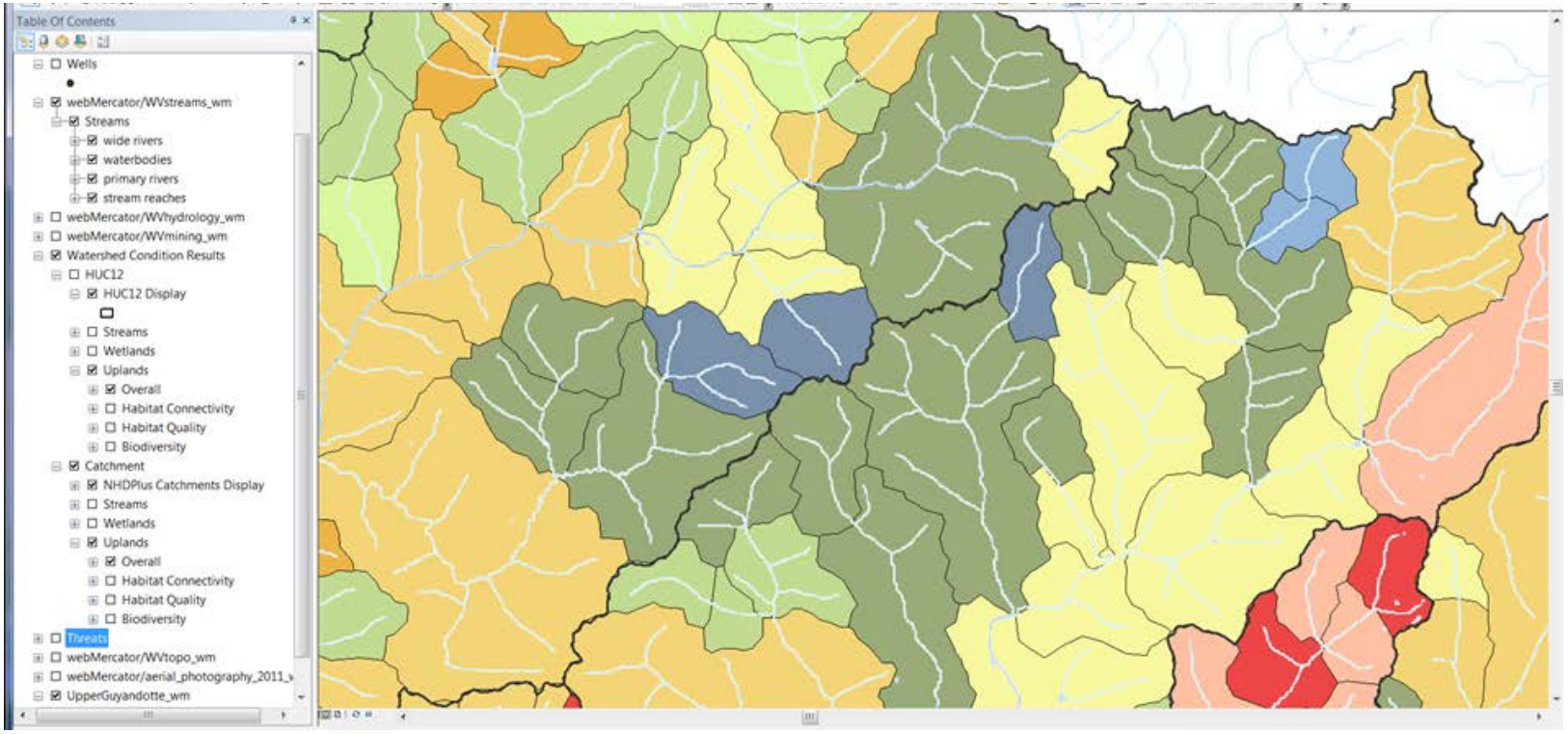


Slab Fork is a DOF priority HUC12, and close to Twin Falls State Park

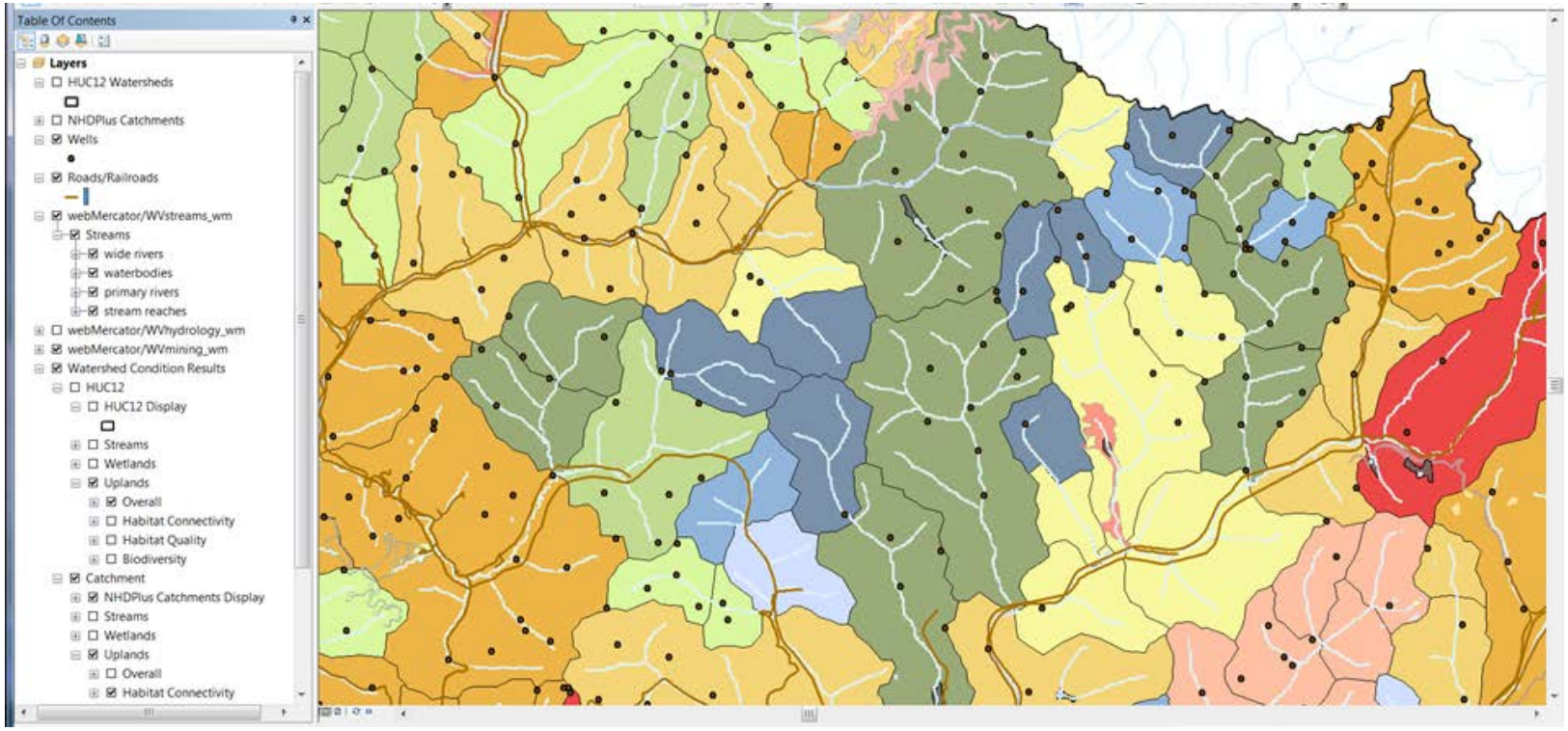
Display Uplands Overall results at catchment level



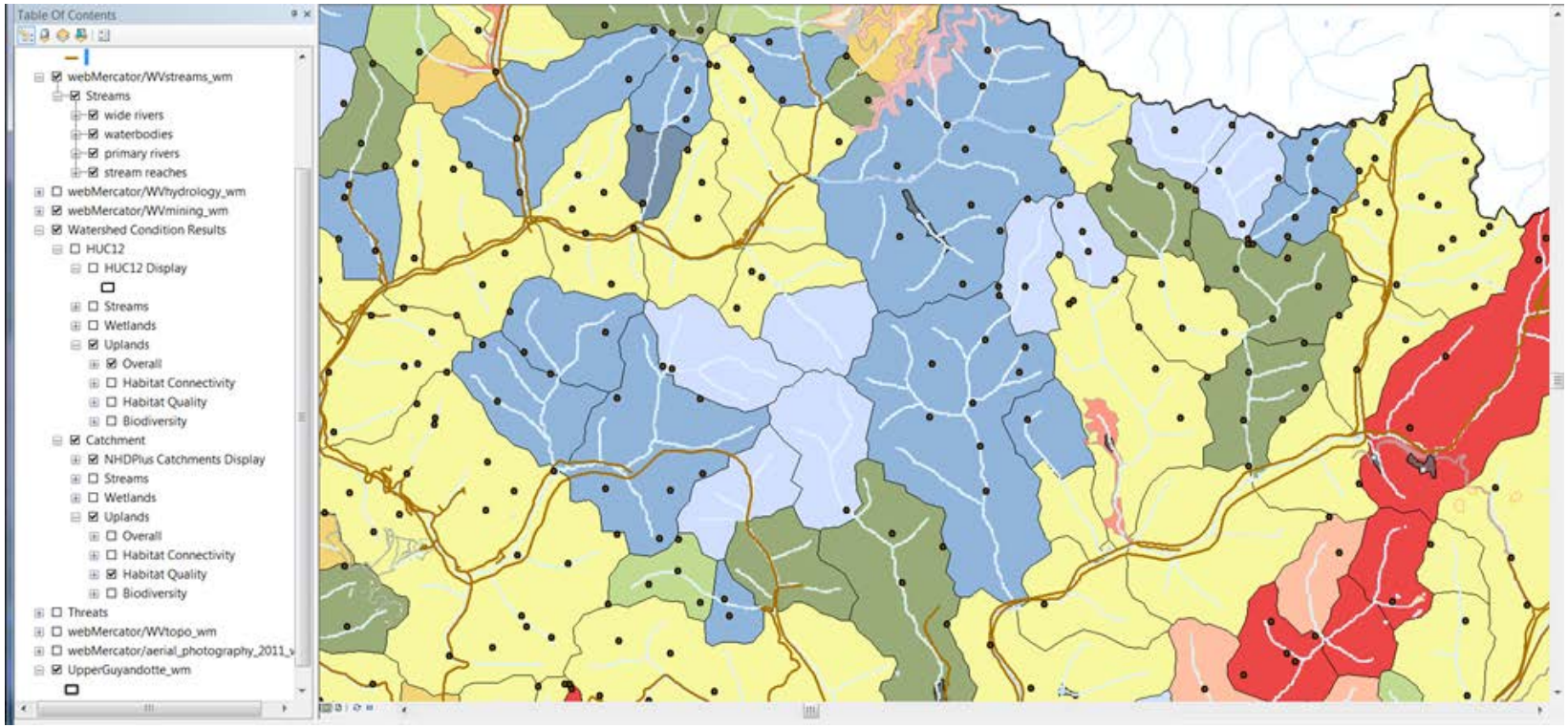
Zoom to high-quality catchment area

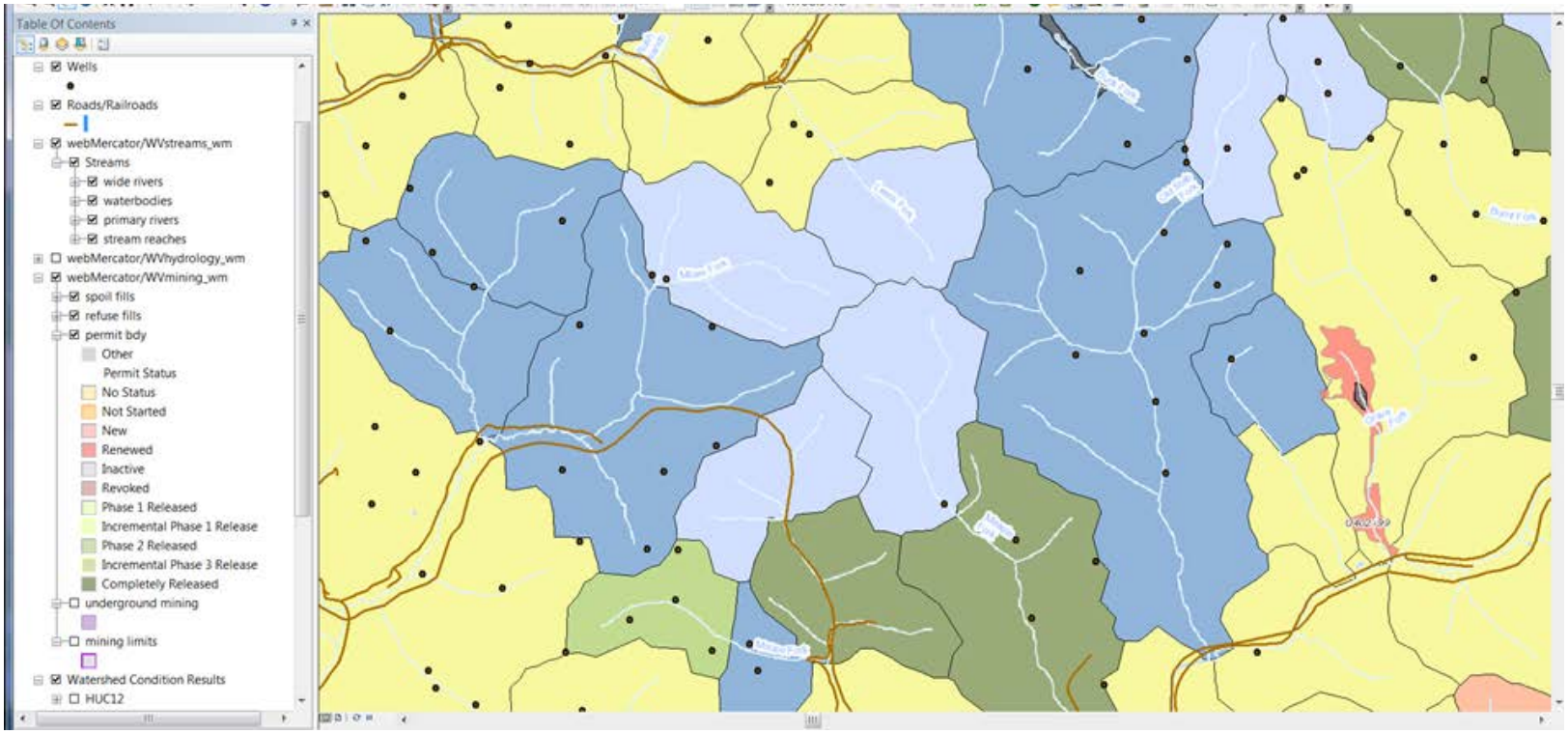


Display Uplands Habitat Connectivity layer, along with streams, roads, wells, and mining



Display Uplands Habitat Quality

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