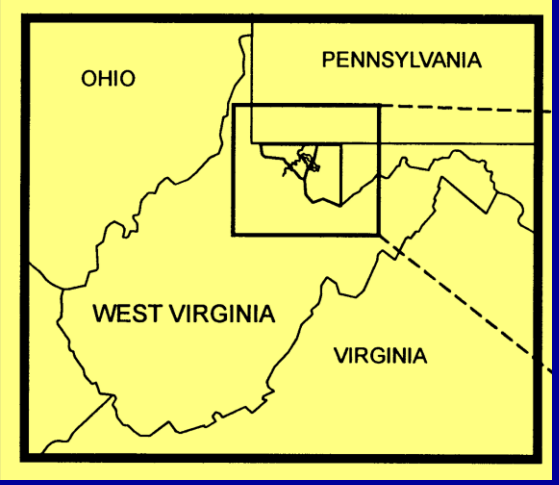
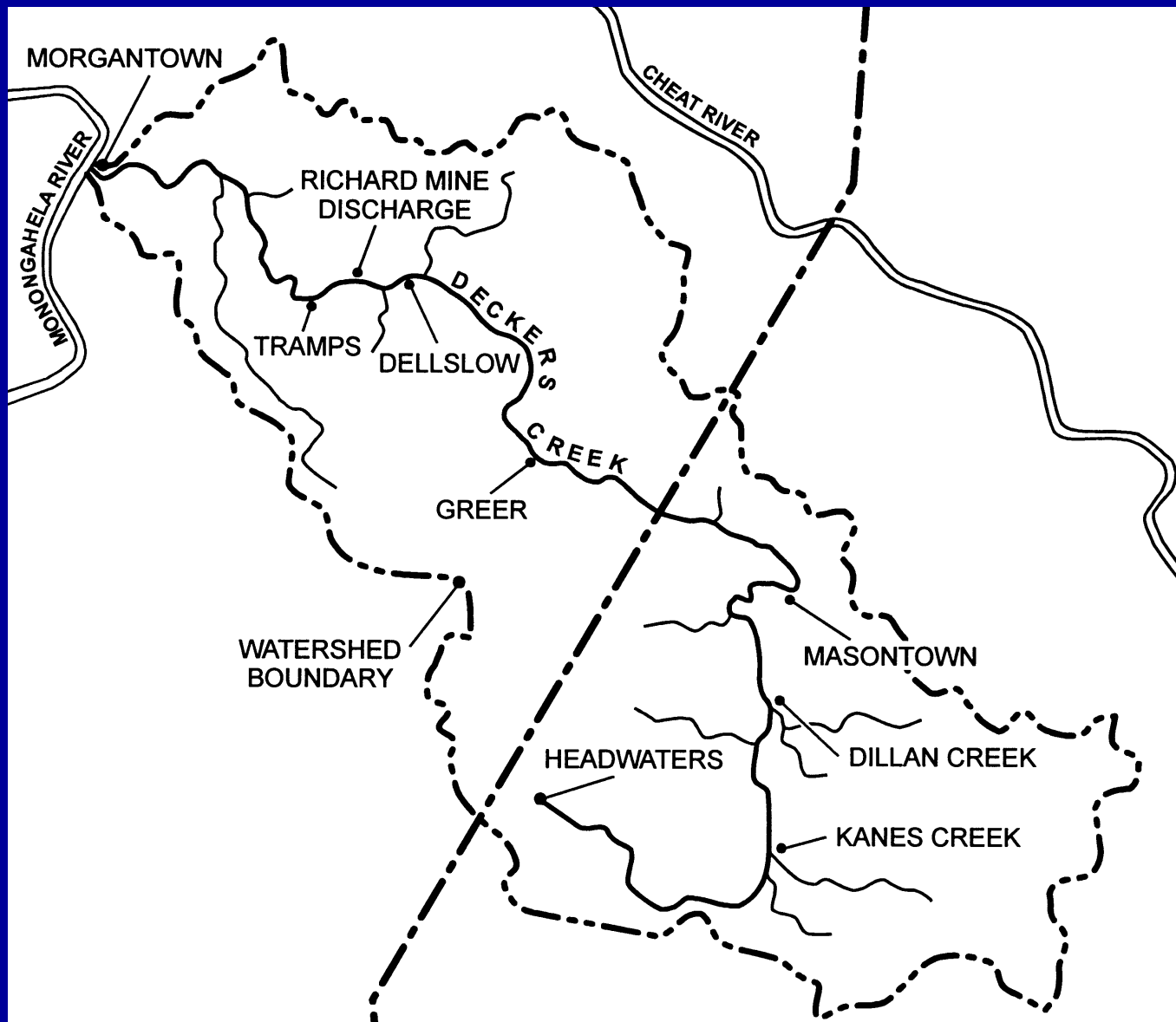
Water Quality Changes in Deckers Creek Over 30 years

1974 and 1999

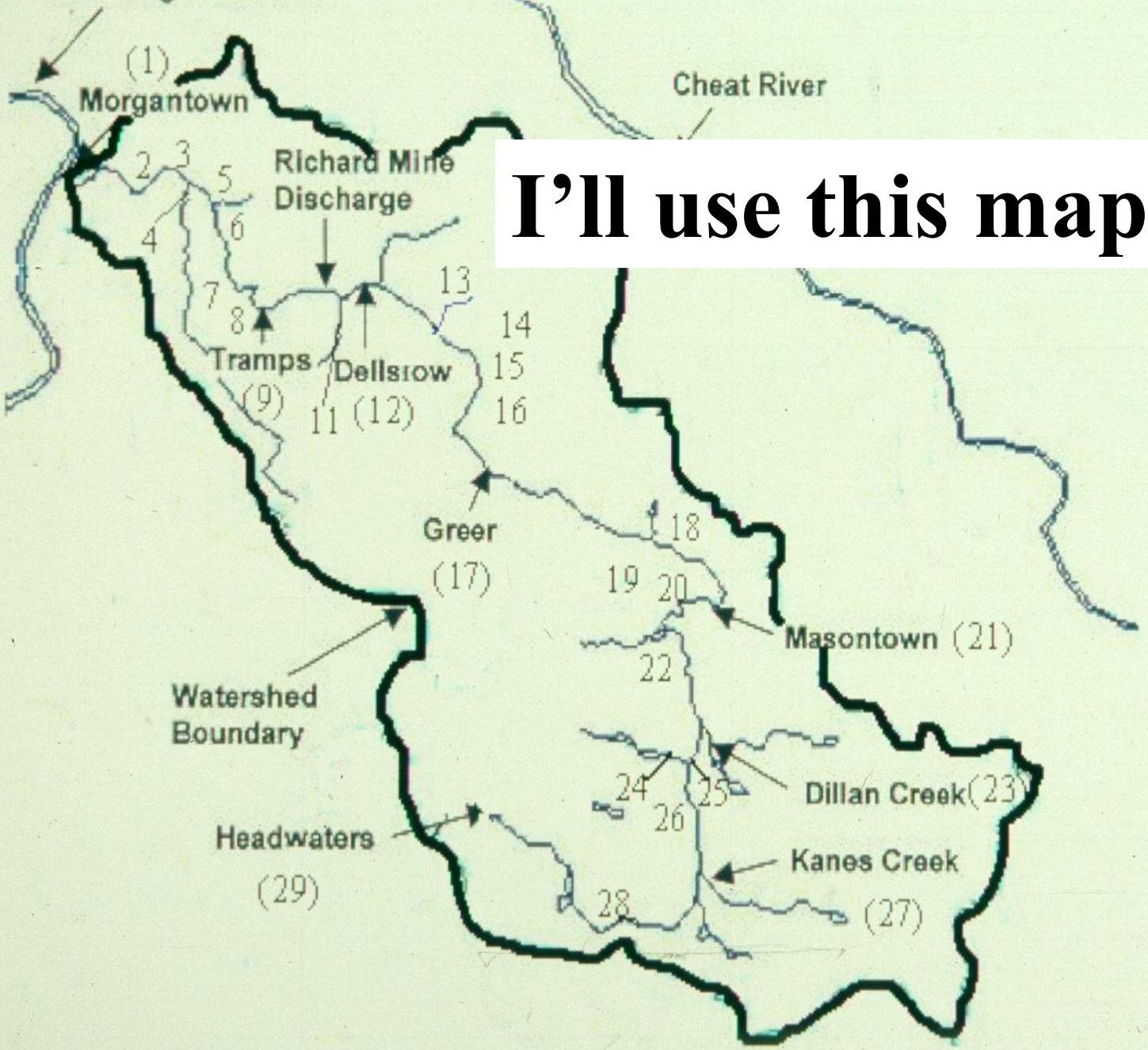
Jason Stewart and Jeff Skousen
West Virginia University

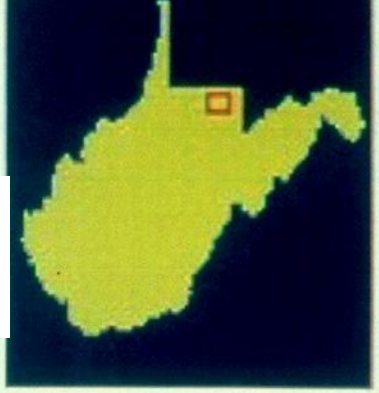

OHIO
PENNSYLVANIA
WEST VIRGINIA
VIRGINIA


MORGANTOWN
CHEAT RIVER
MONONGAHELA RIVER
RICHARD MINE
DISCHARGE
DECKERS
CREEK
TRAMPS
DELLSLOW
GREER
WATERSHED
BOUNDARY
MASONTOWN
DILLAN CREEK
HEADWATERS
KANES CREEK

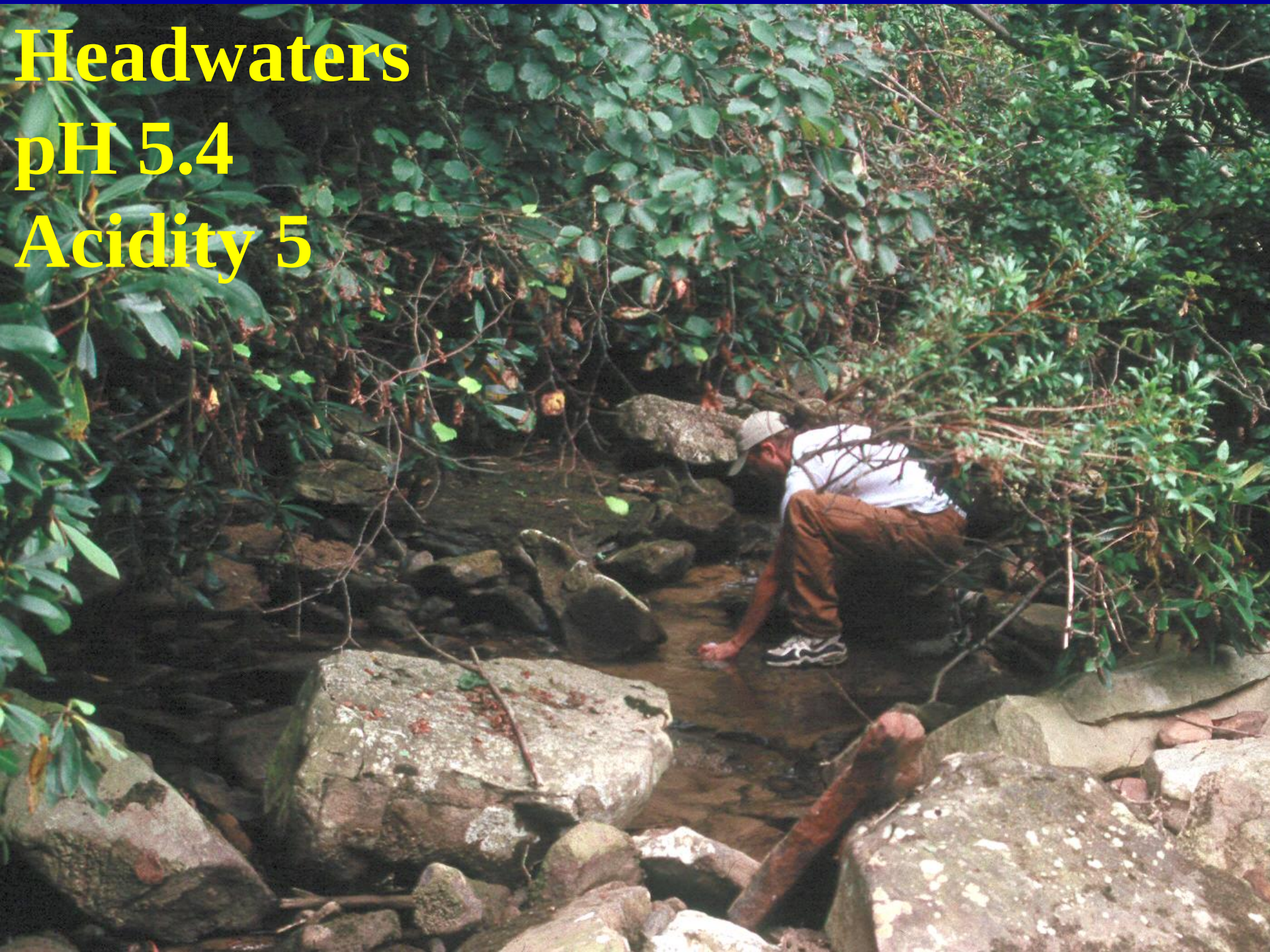
Beautiful Mixed-Use Watershed
Farming, Residential, Industry

I'll use this map

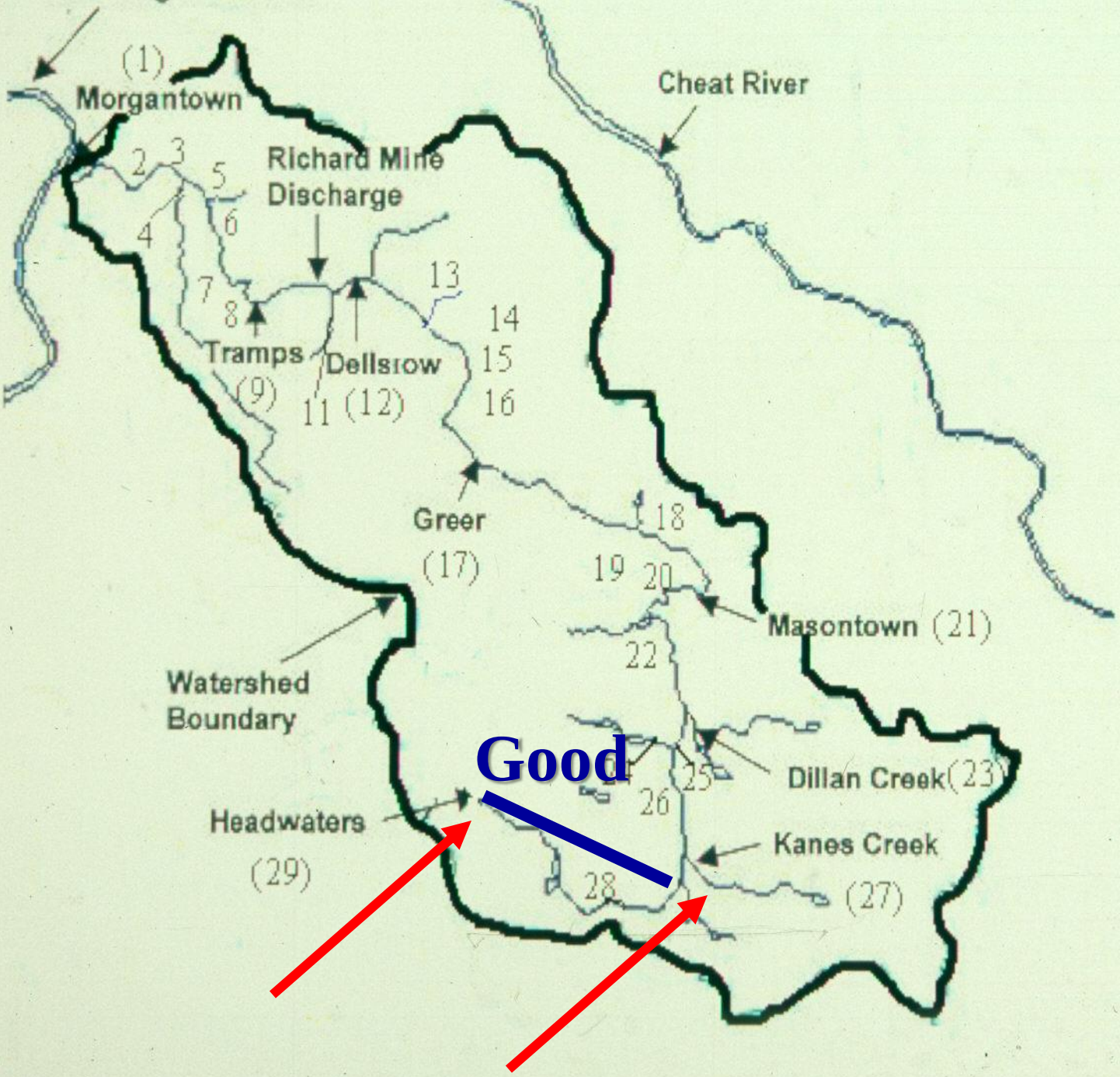


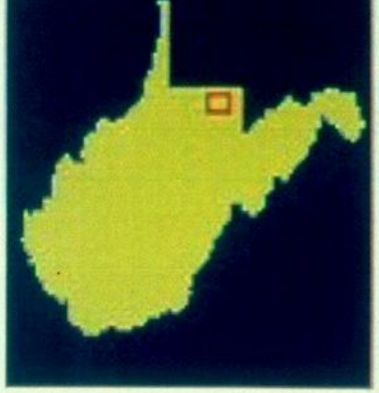


Location of sampling points throughout the Deckers Creek Watershed


Headwaters
pH 5.4
Acidity 5

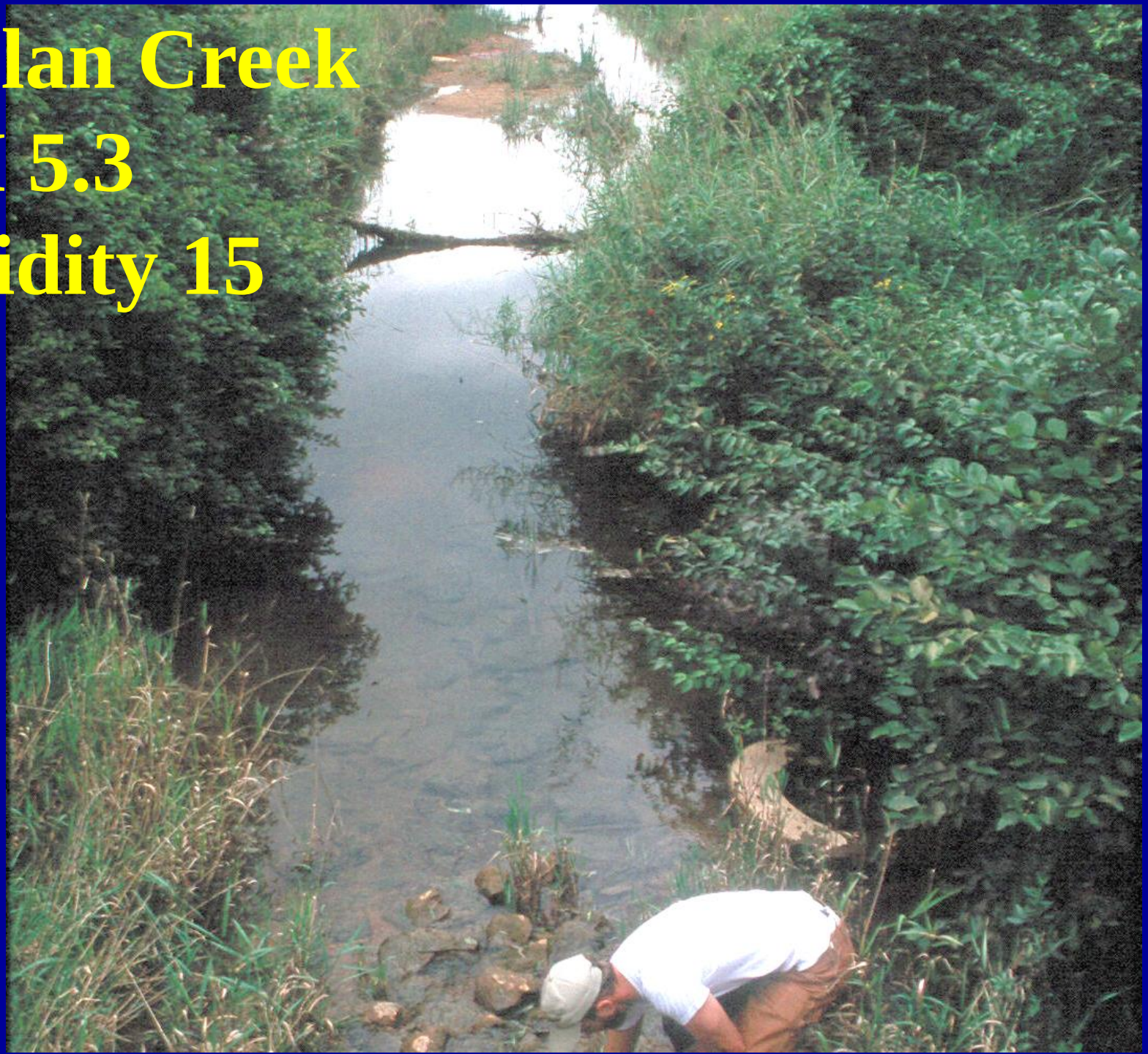
Kanes Creek
pH 4.4
Acidity 50





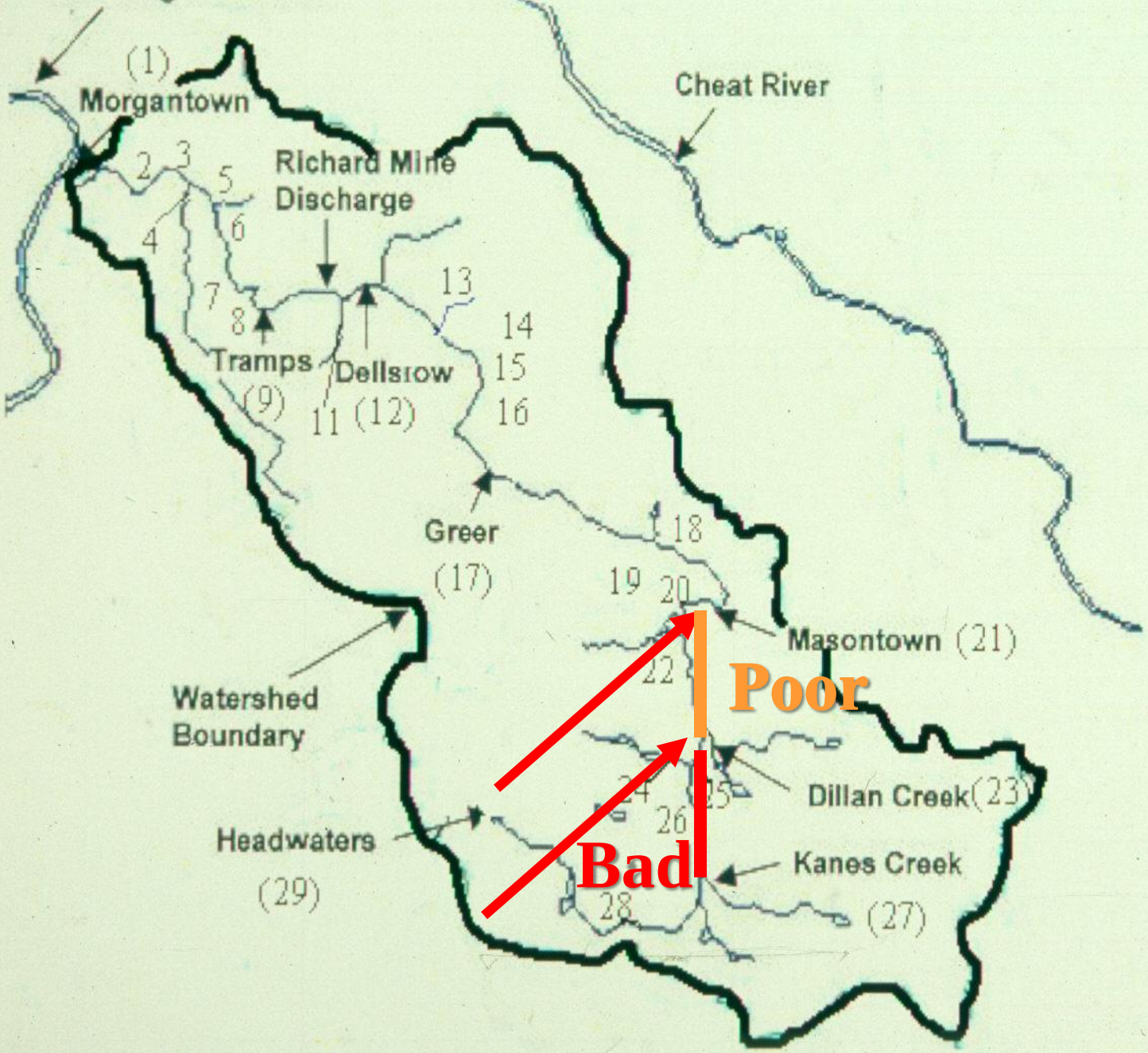
Location of sampling points throughout the Deckers Creek Watershed

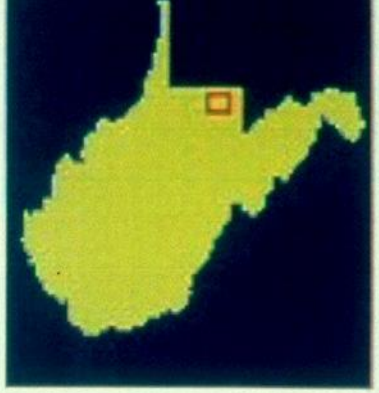
Dillan Creek
pH 5.3
Acidity 15



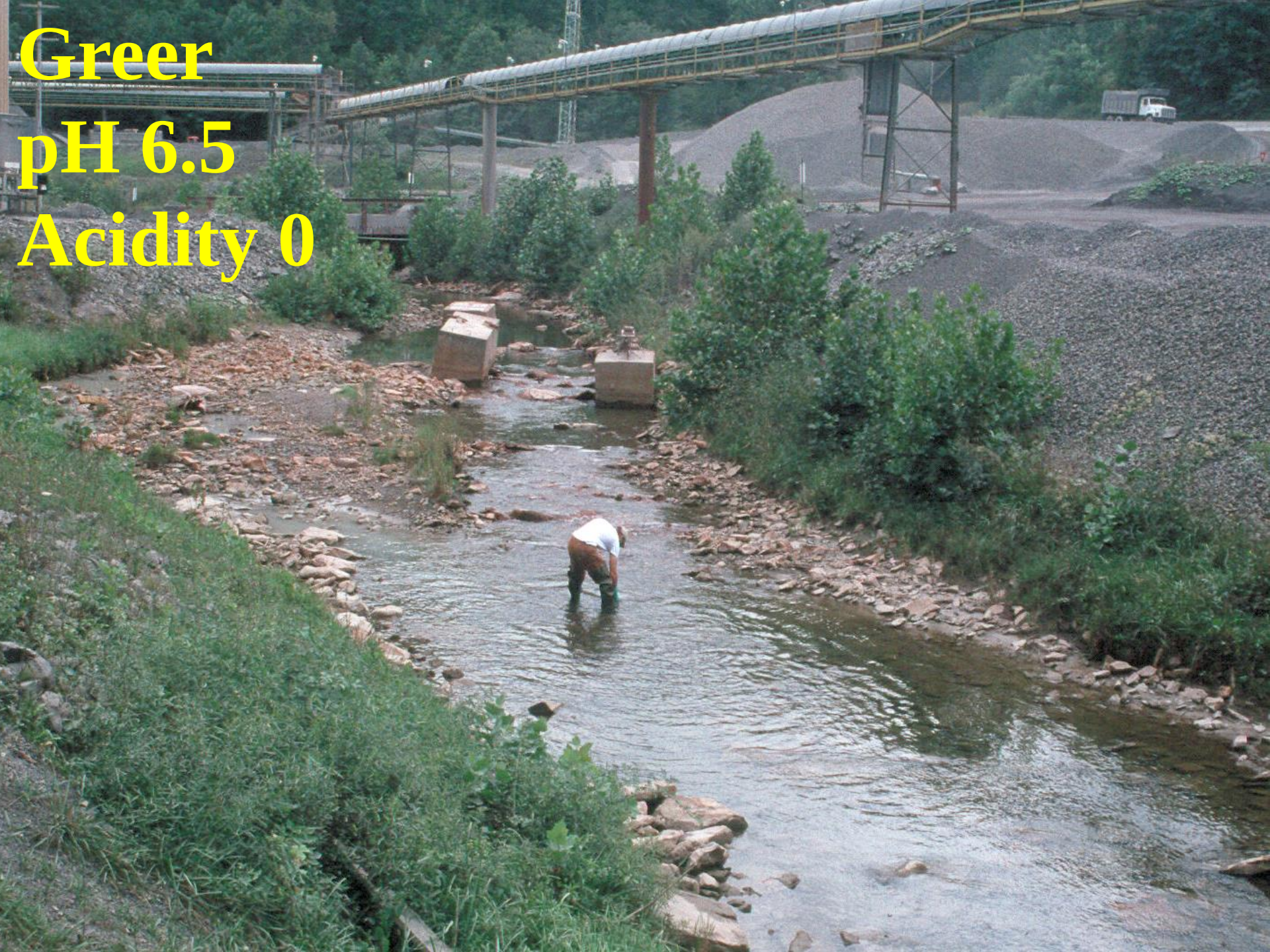
Masontown
pH 5.0
Acidity 10

Masontown Sewage Fecal Coliforms

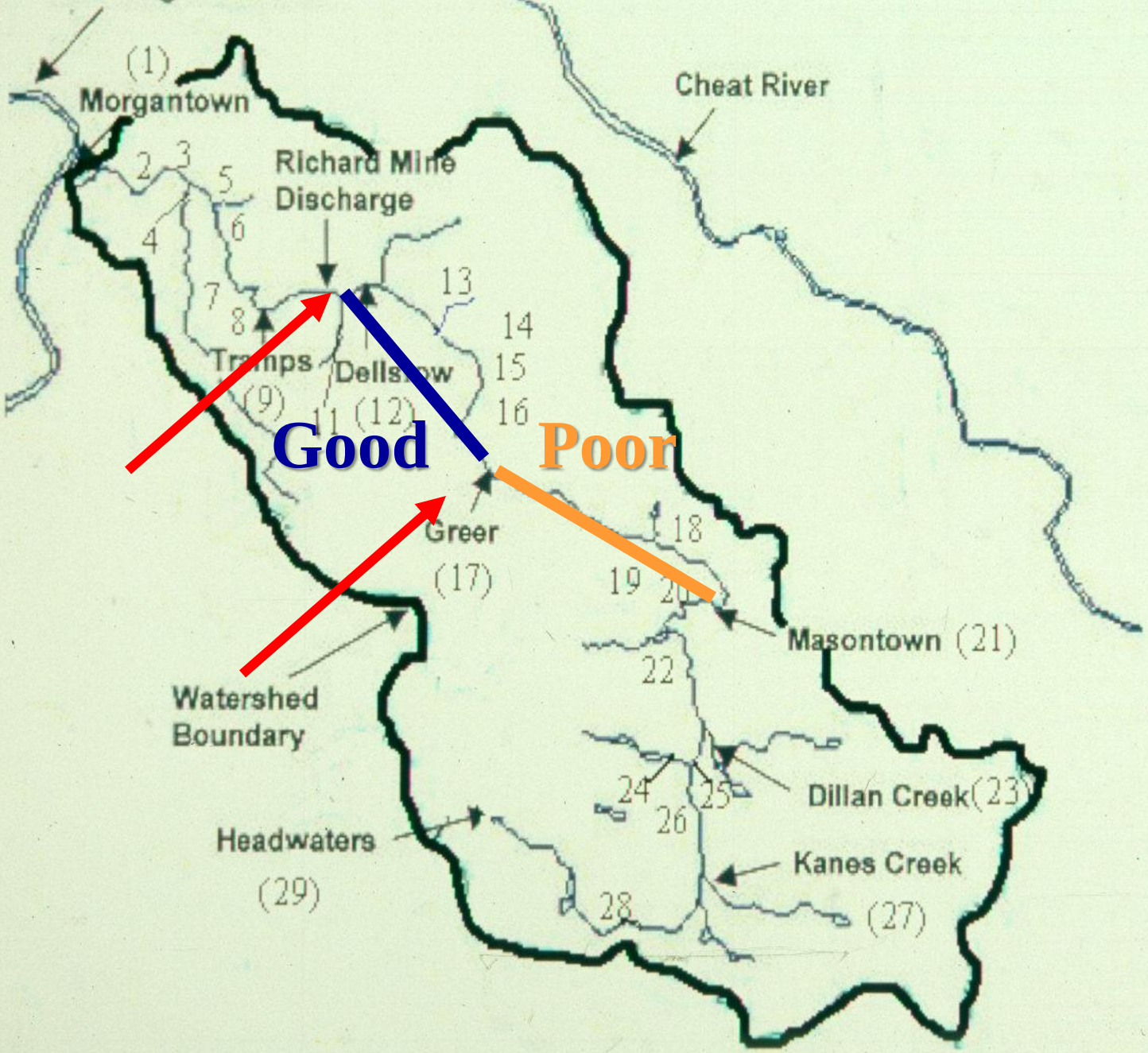


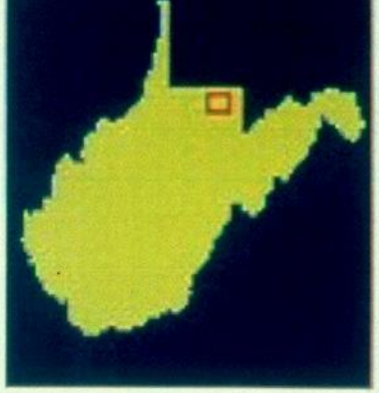


Location of sampling points throughout the Deckers Creek Watershed


Greer
pH 6.5
Acidity 0

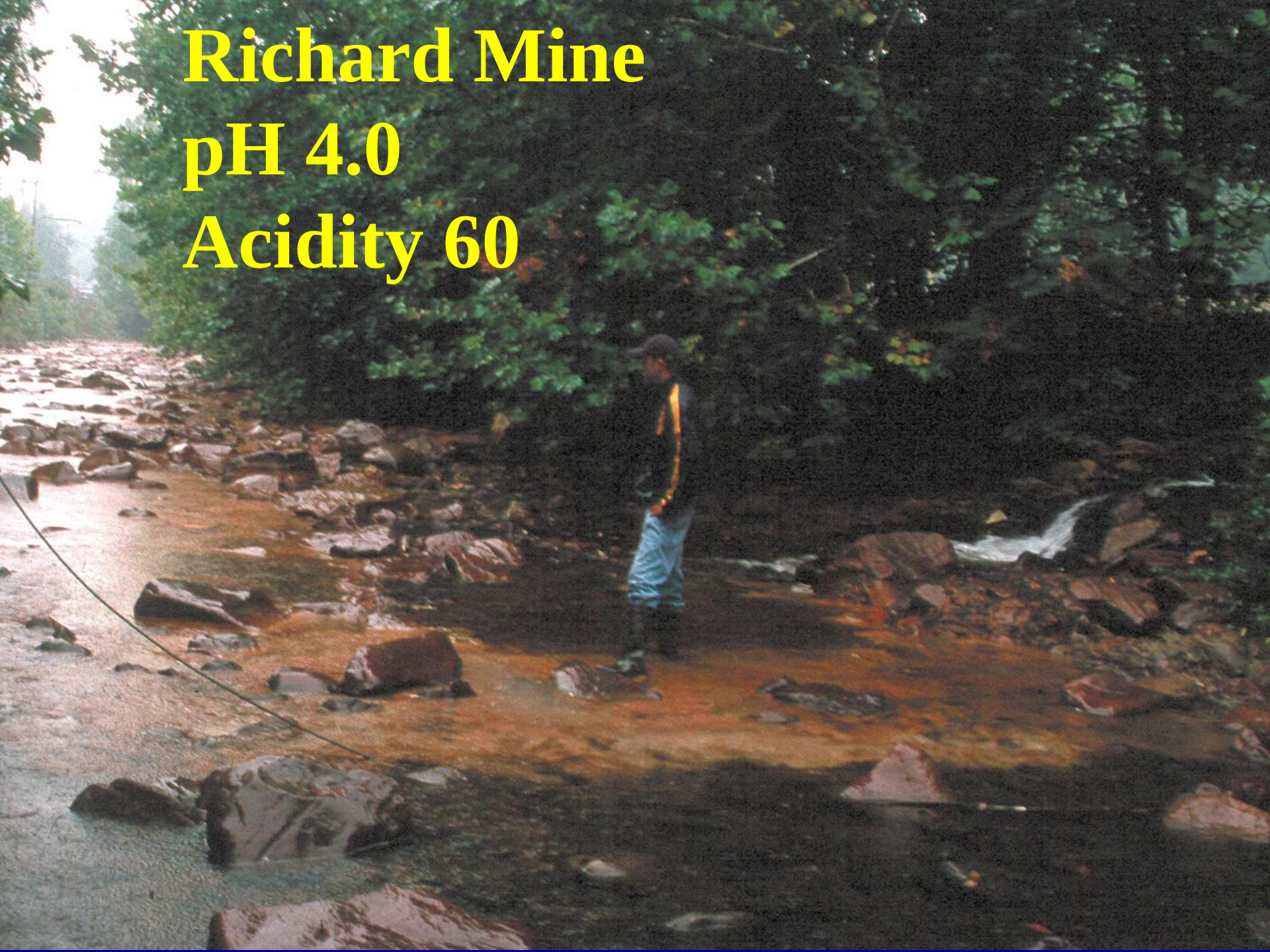
Below Greer
pH 6.5
Acidity 0

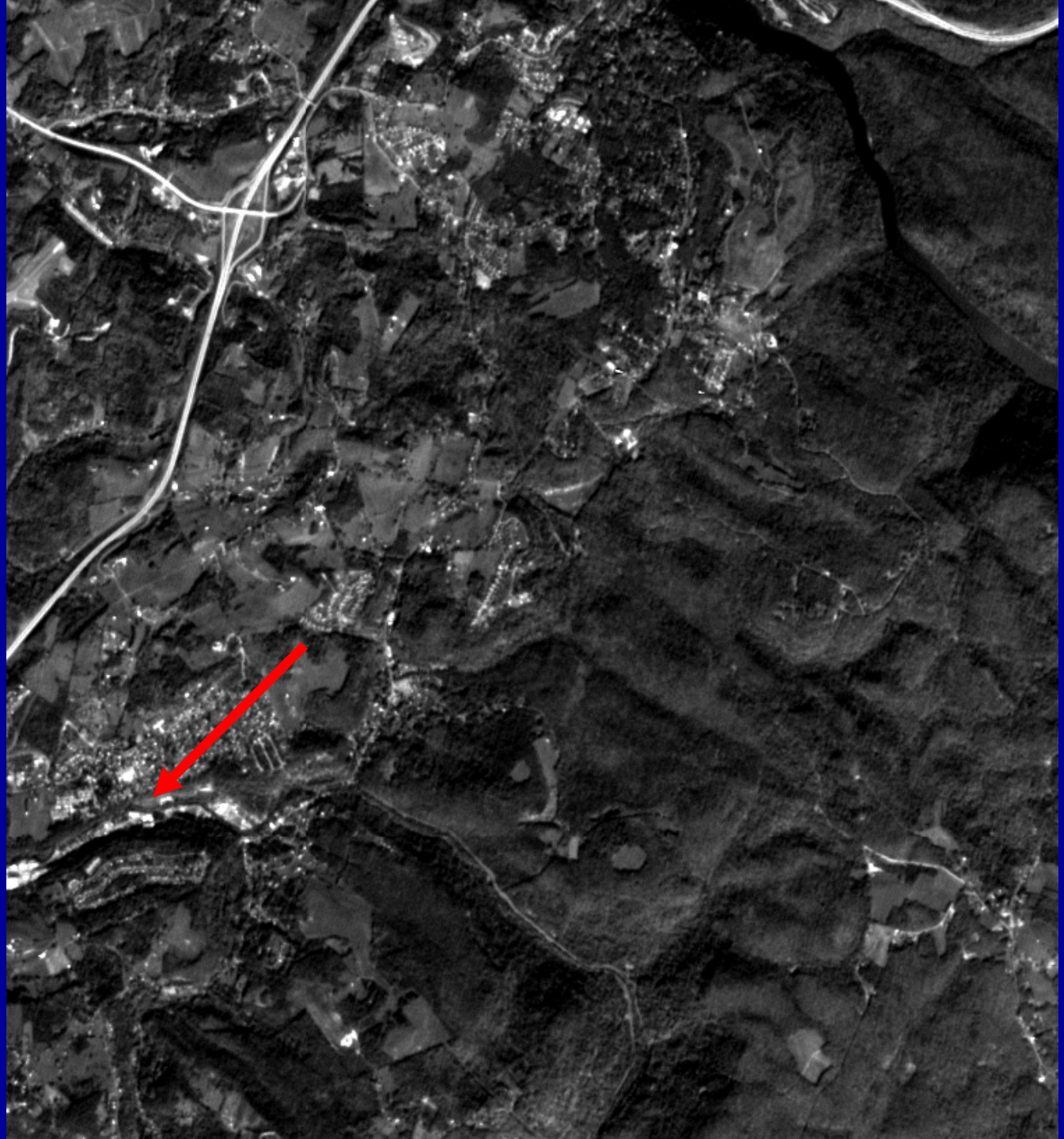


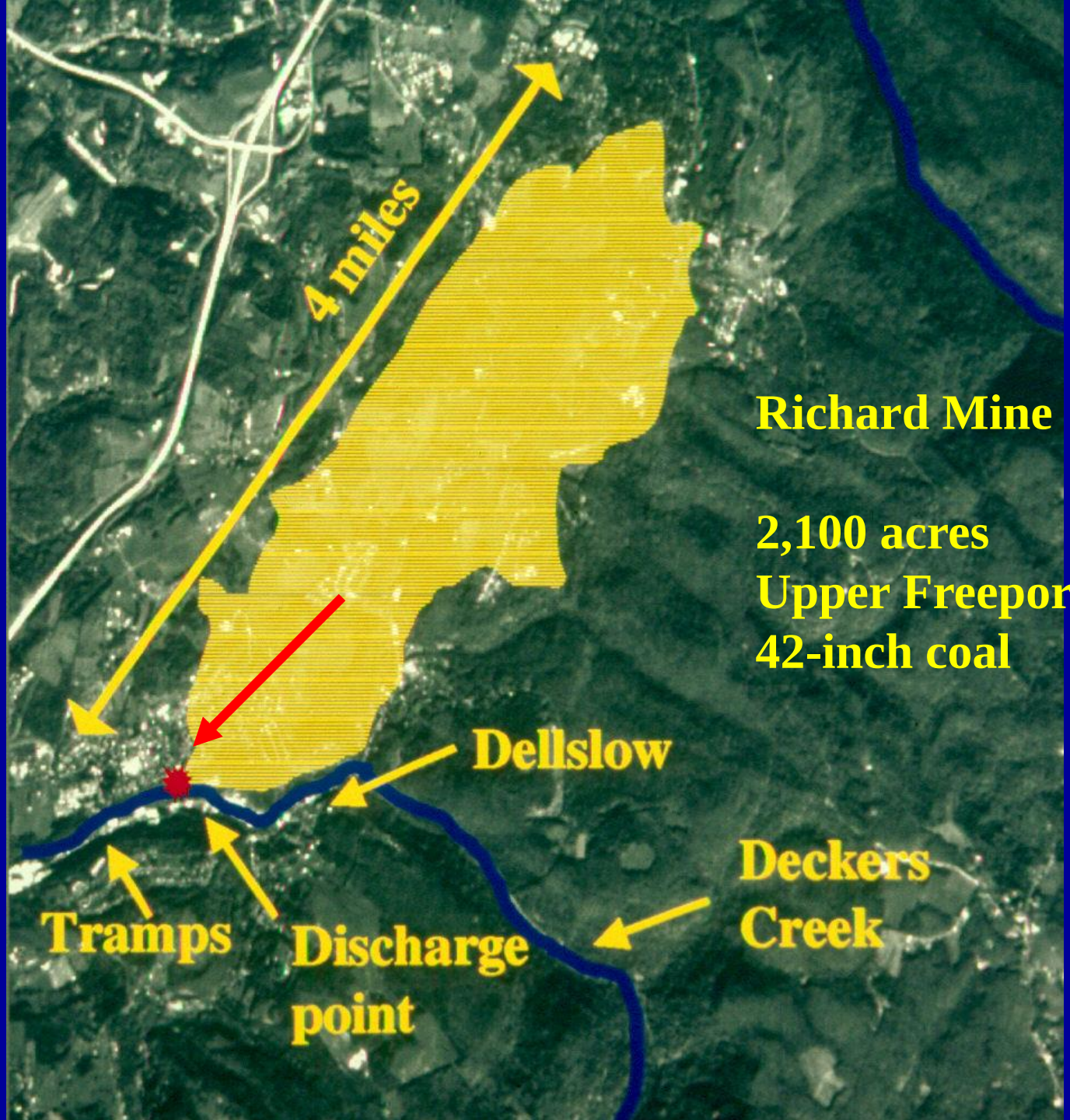


Location of sampling points throughout the Deckers Creek Watershed

4 km

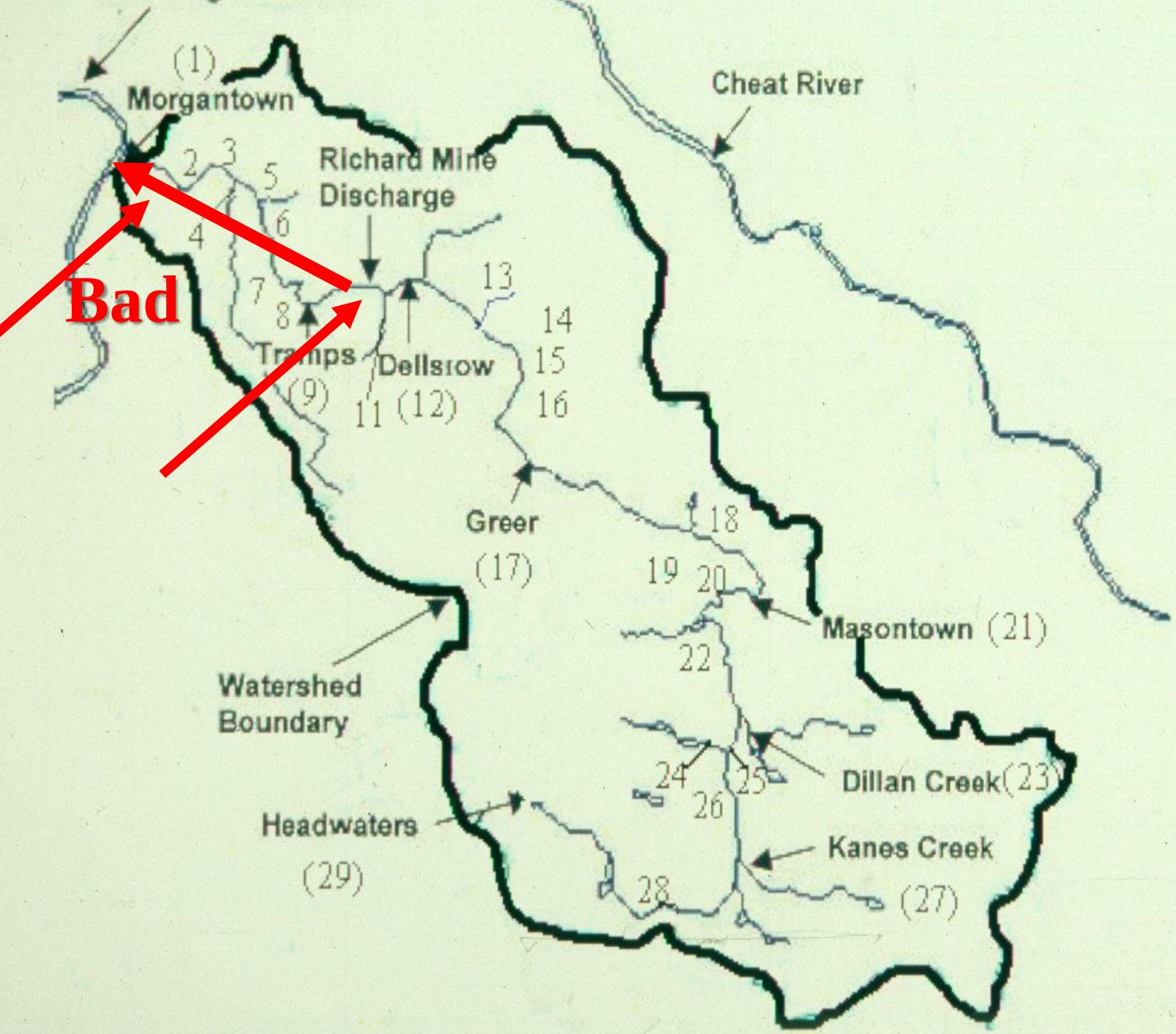

Richard Mine
pH 4.0
Acidity 60

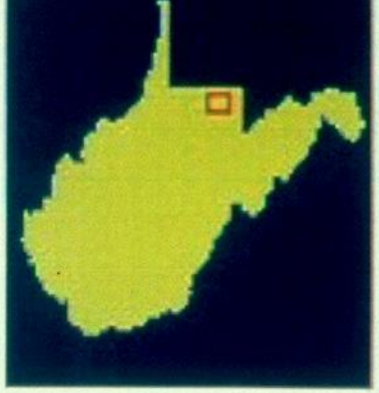



4 miles
Richard Mine
2,100 acres
Upper Freeport
42-inch coal
Dellslow
Deckers
Creek
Tramps
Discharge
point

Richard Mine

Below Richard Mine
pH 5.2
Acidity 25





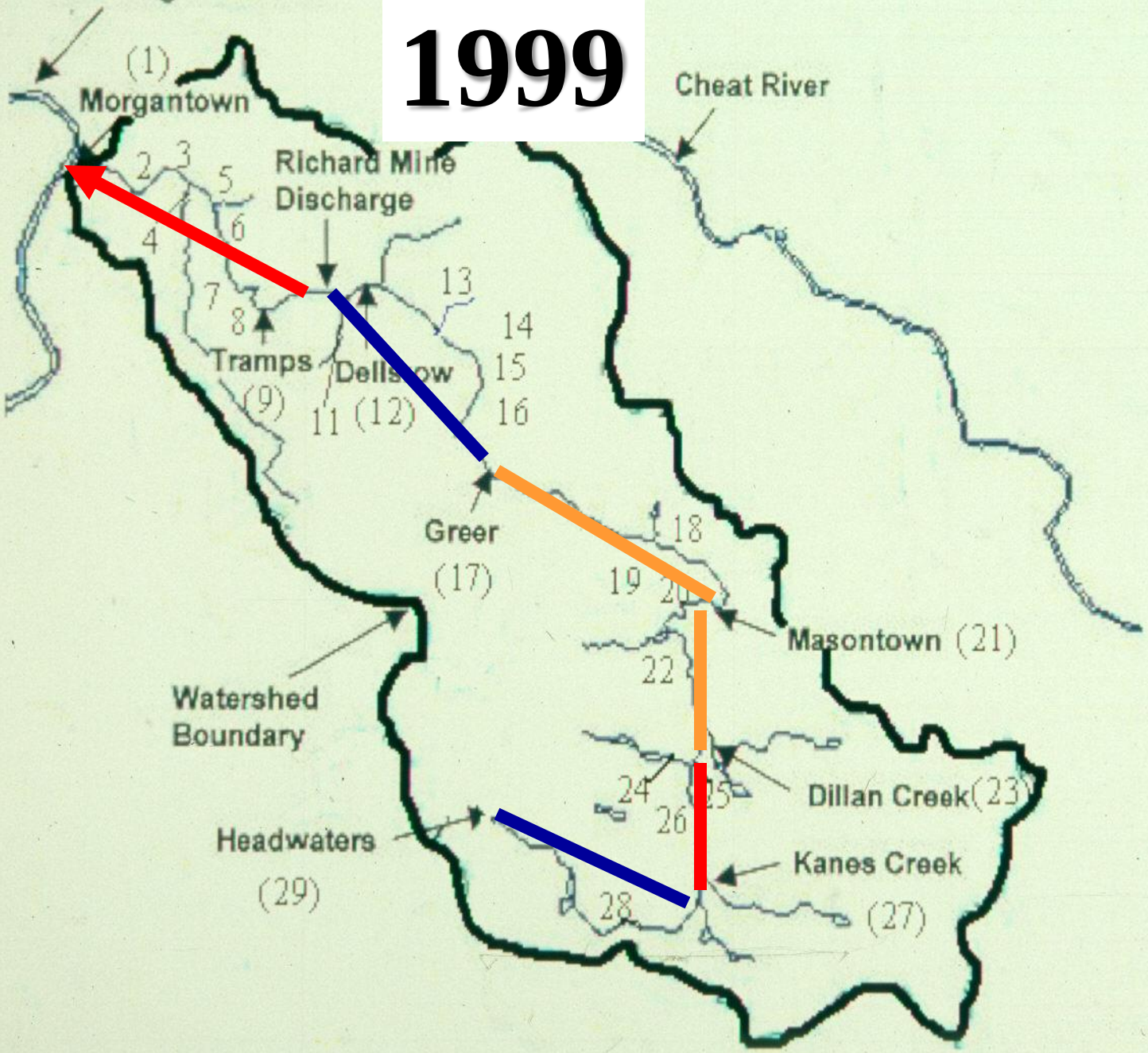
Location of sampling points throughout the Deckers Creek Watershed

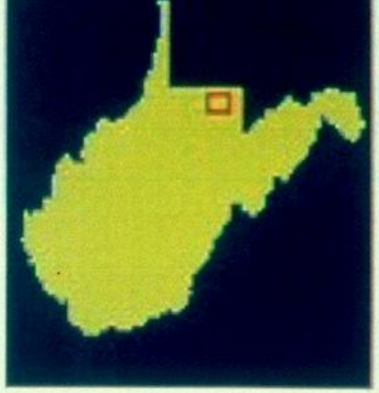
4 km

Marilla Park – Morgantown
pH 5.8
Acidity 20

Morgantown
pH 5.9
Acidity 15

1999

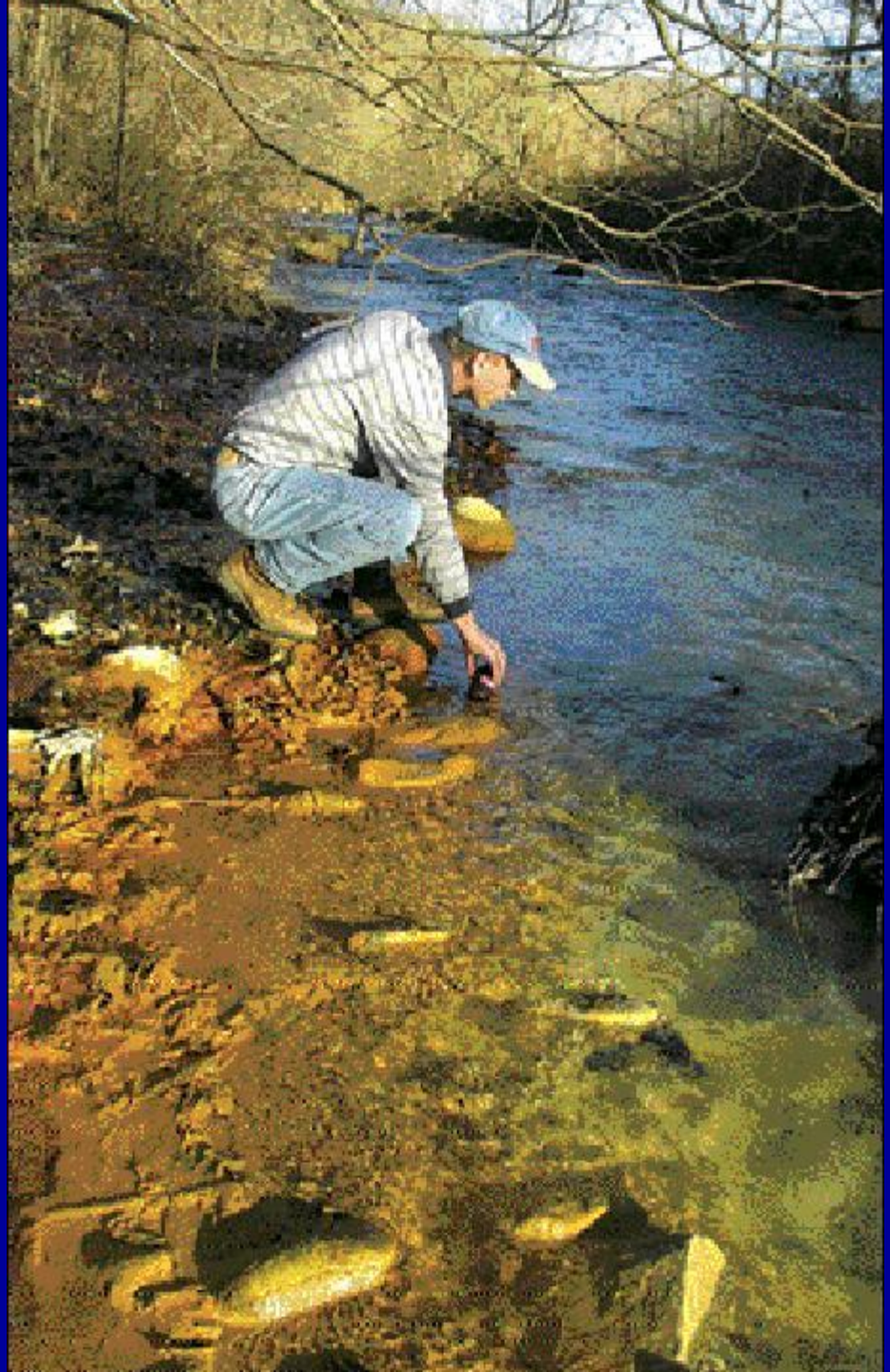




Location of sampling points throughout the Deckers Creek Watershed

4 km

Jason Stewart



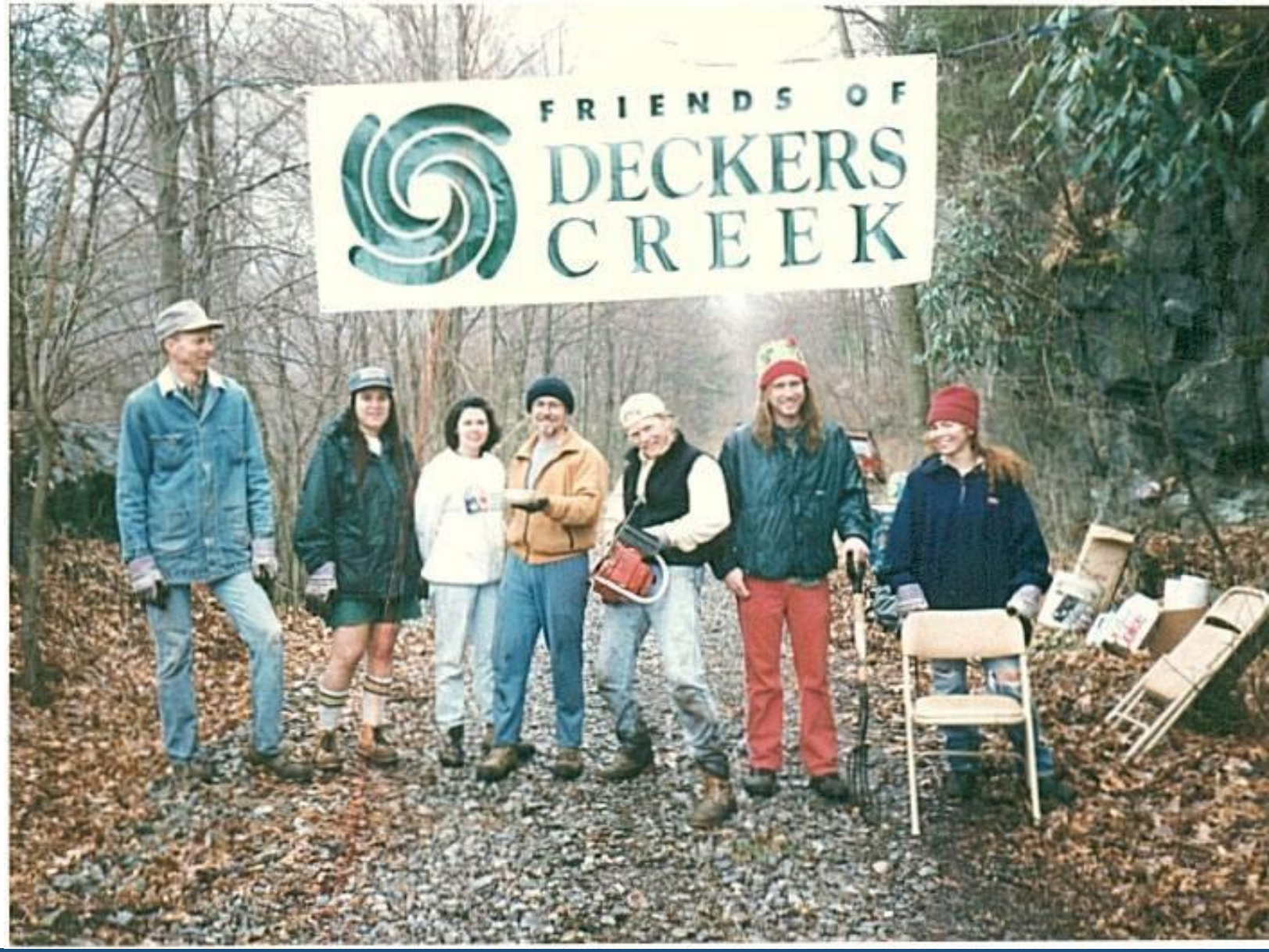
Deckers Creek- Progress at the Richard Mine Discharge

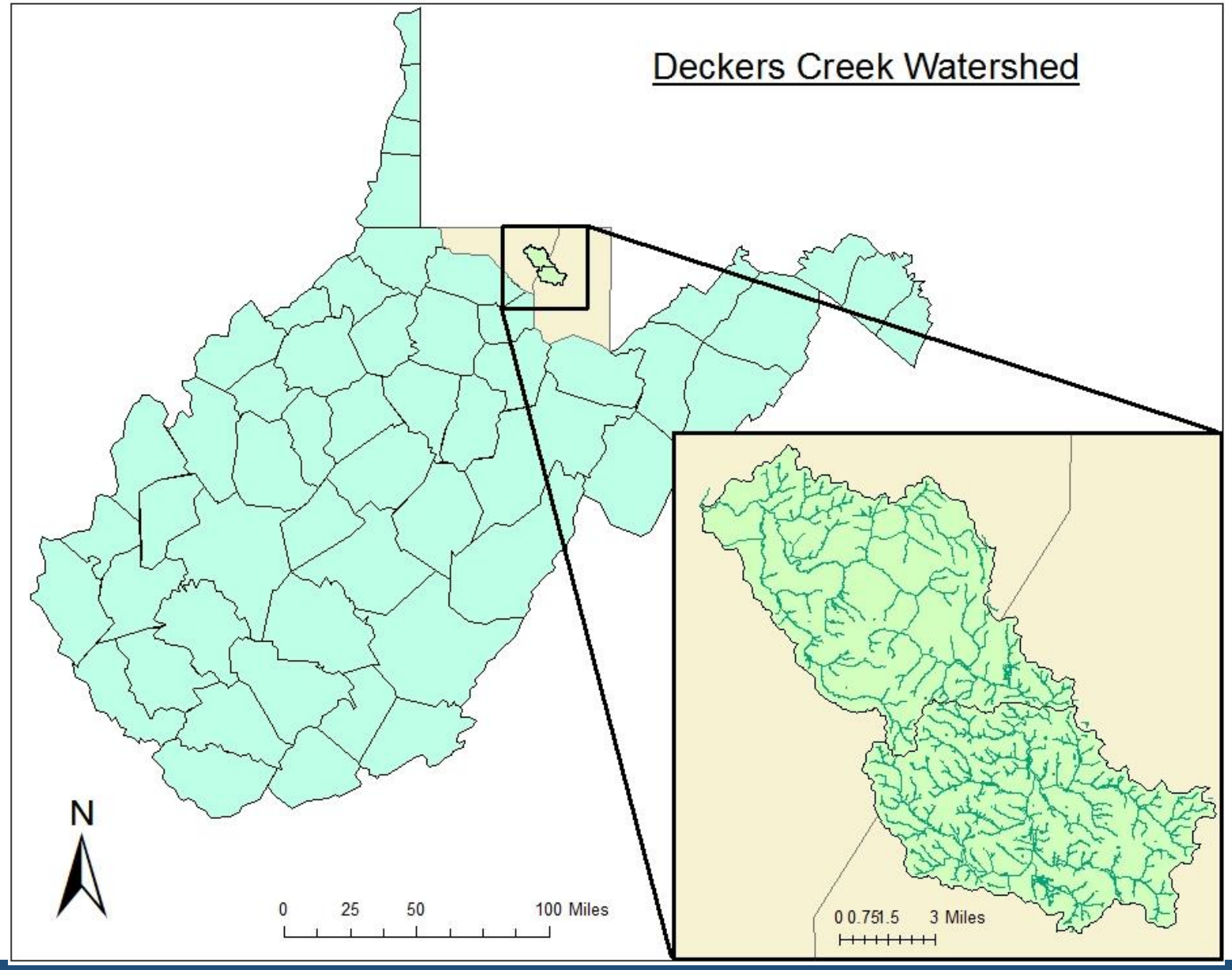
Sarah Cayton- Executive Director
Friends of Deckers Creek

March 26, 2019

History:

Mission:
To improve the natural qualities of, increase the public concern for, and promote the enjoyment of the Deckers Creek Watershed





Friends of Deckers Creek

To improve the natural qualities of, increase the public concern for, and promote the enjoyment of the Deckers Creek Watershed

Friends of Deckers Creek

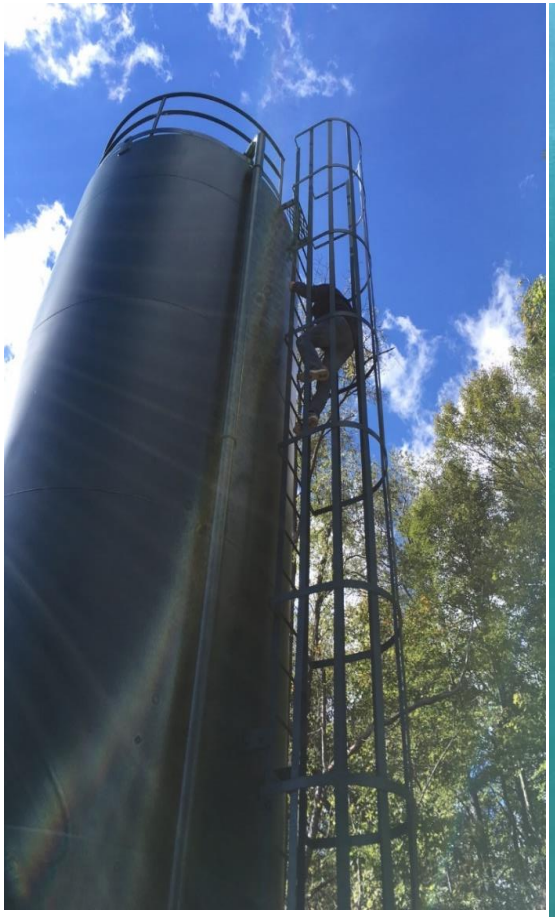
To improve the natural qualities of, increase the public concern for, and promote the enjoyment of the Deckers Creek Watershed

Pollution in Deckers

Friends of Deckers Creek

To improve the natural qualities of, increase the public concern for, and promote the enjoyment of the Deckers Creek Watershed

FODC Treatment Sites



Friends of Deckers Creek

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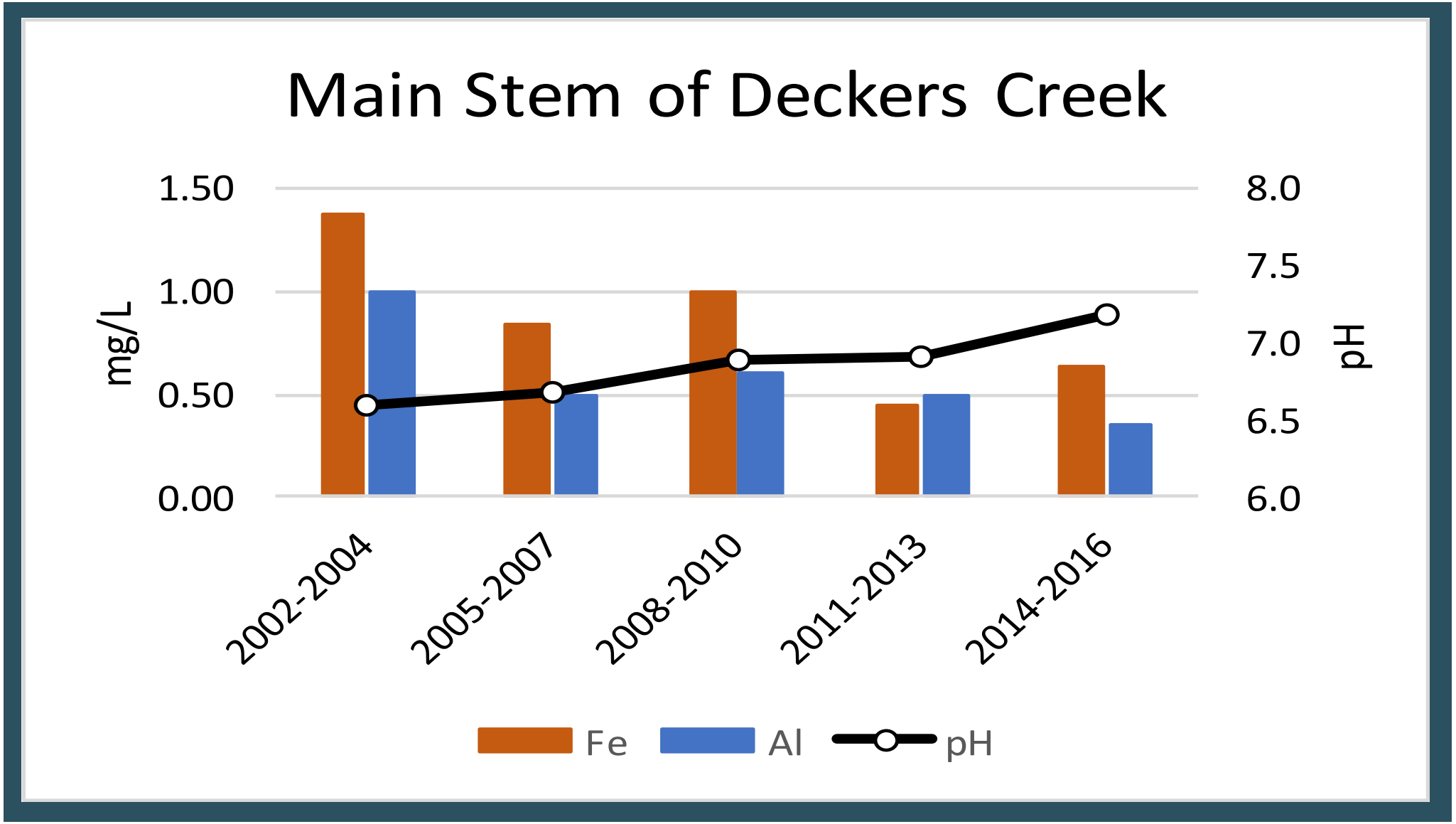
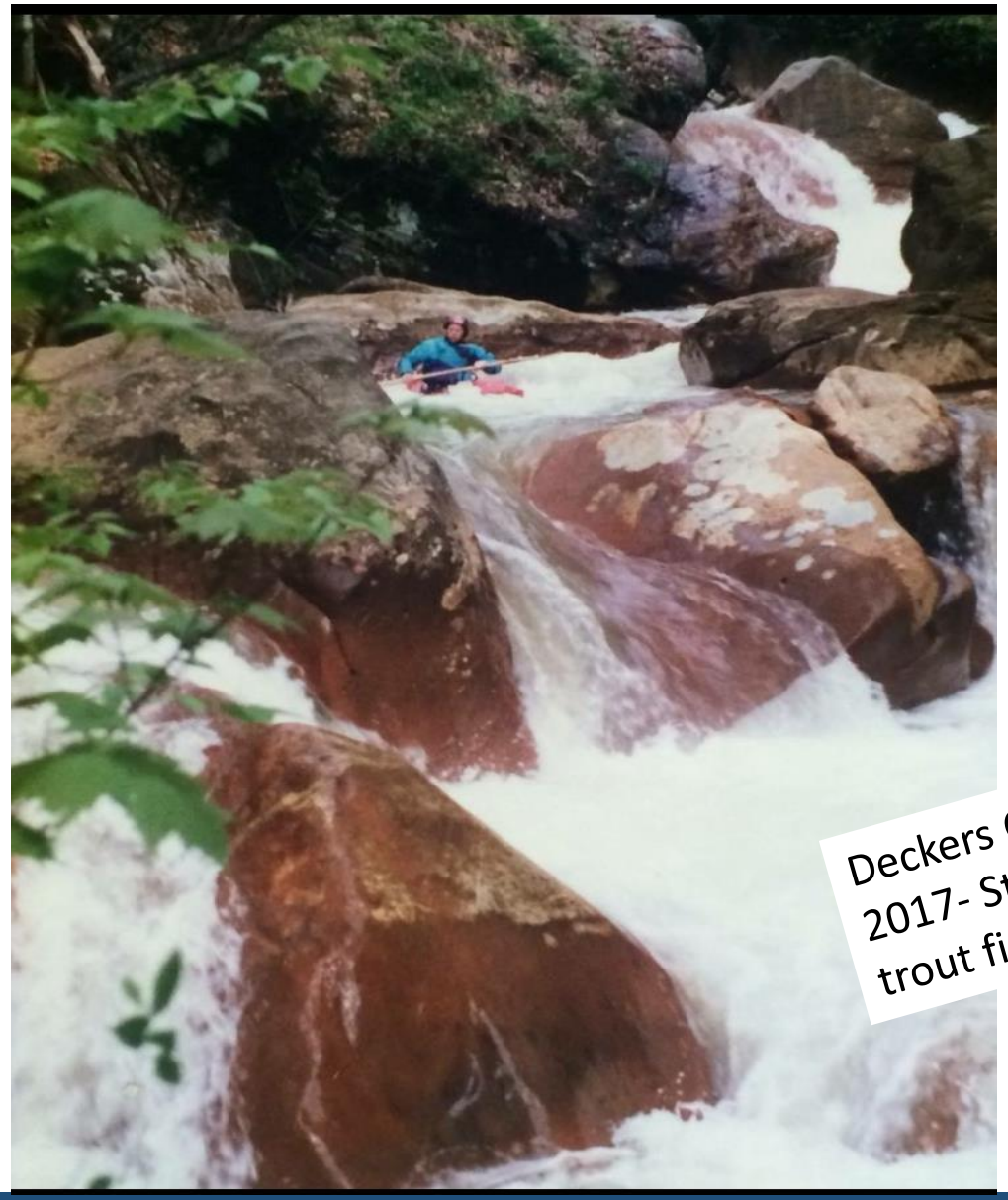

Main Stem of Deckers Creek
1.50
1.00
0.50
0.00
mg/L
8.0
7.5
7.0
6.5
6.0
pH
2002-2004
2005-2007
2008-2010
2011-2013
2014-2016
Fe
Al
pH



Deckers Creek Gorge
1995

Deckers Creek Gorge
2017- Stocking brown
trout fingerlings

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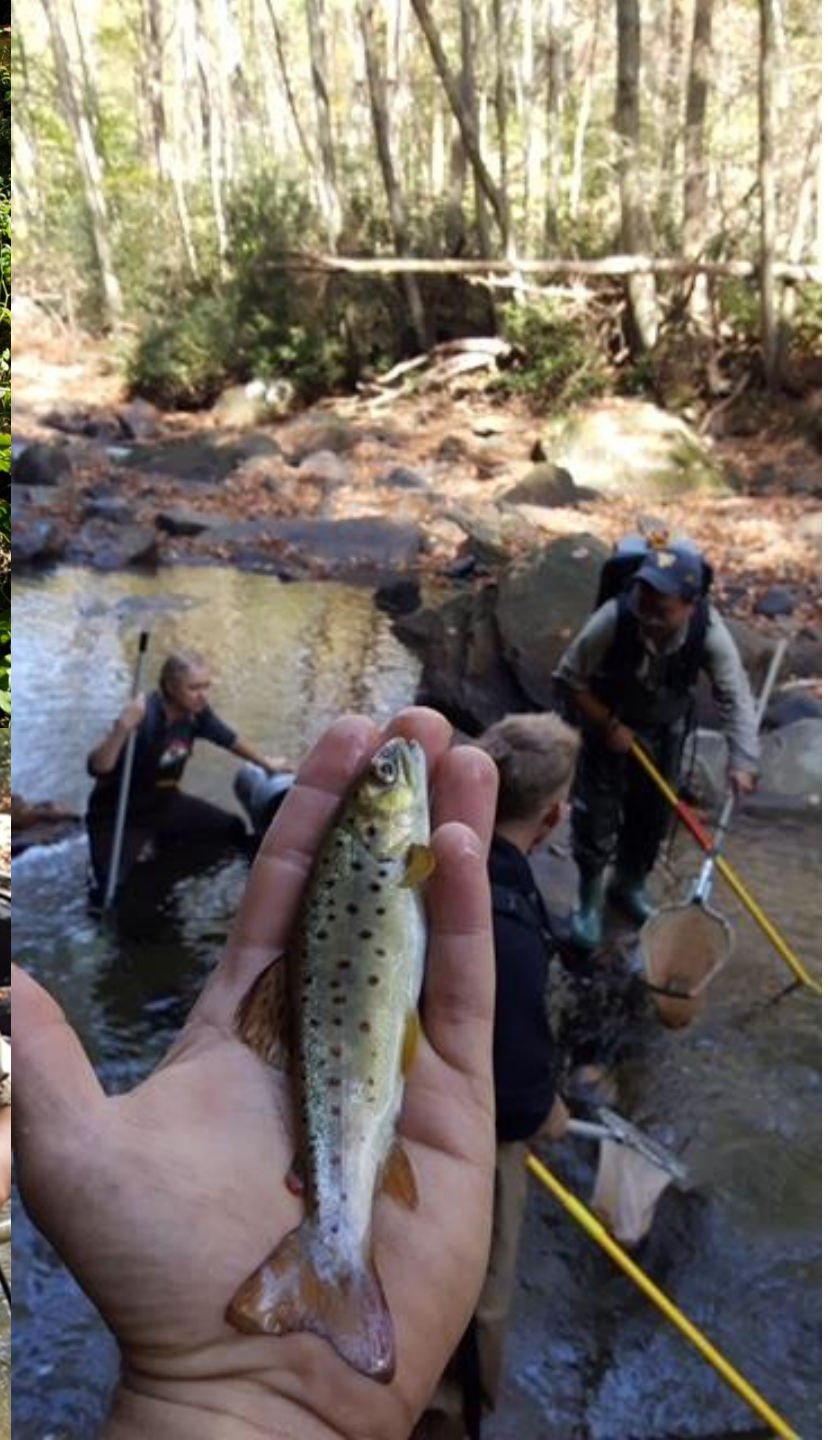
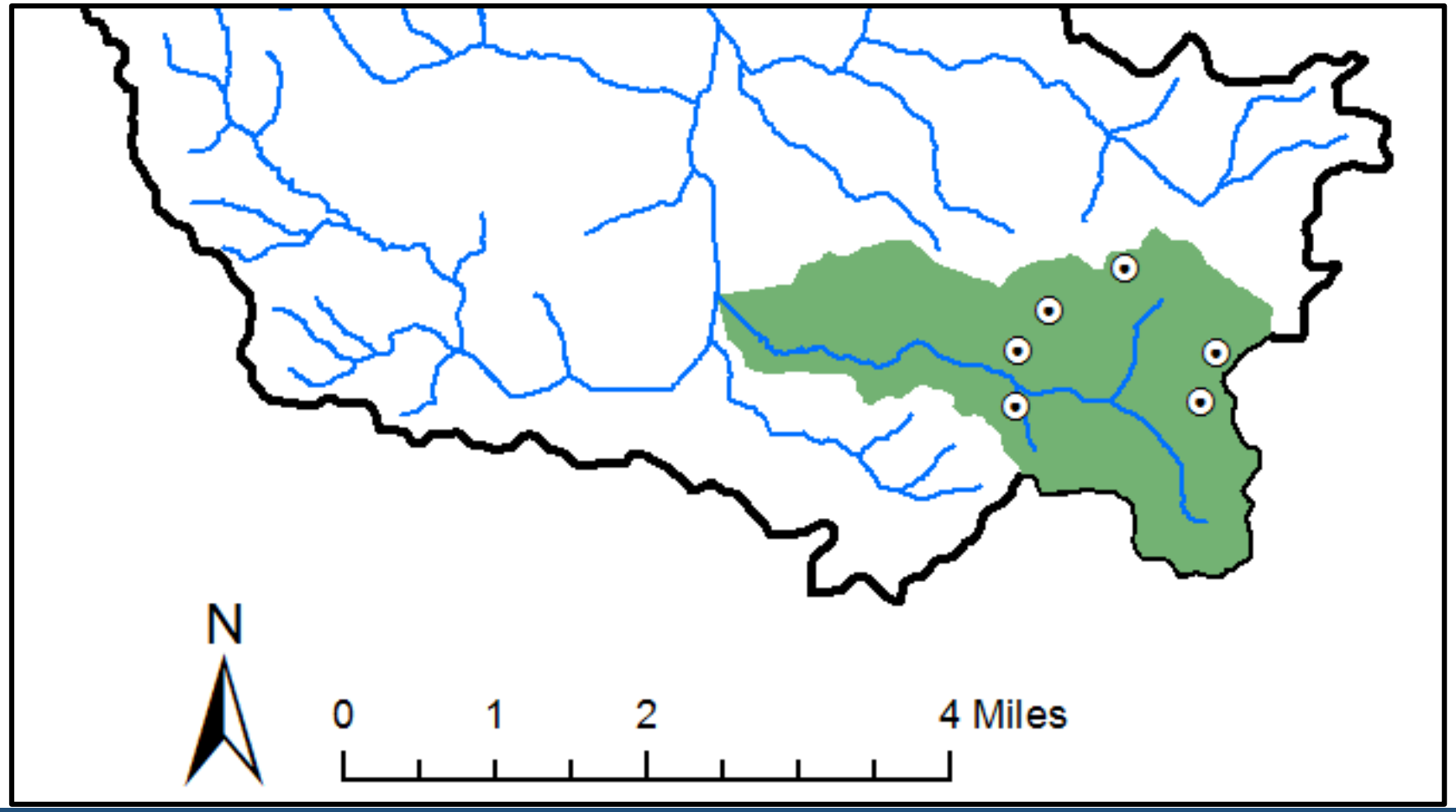
Scout Pro
Made in U.S.A. by Wildco® 800-799-8301 · 904-225

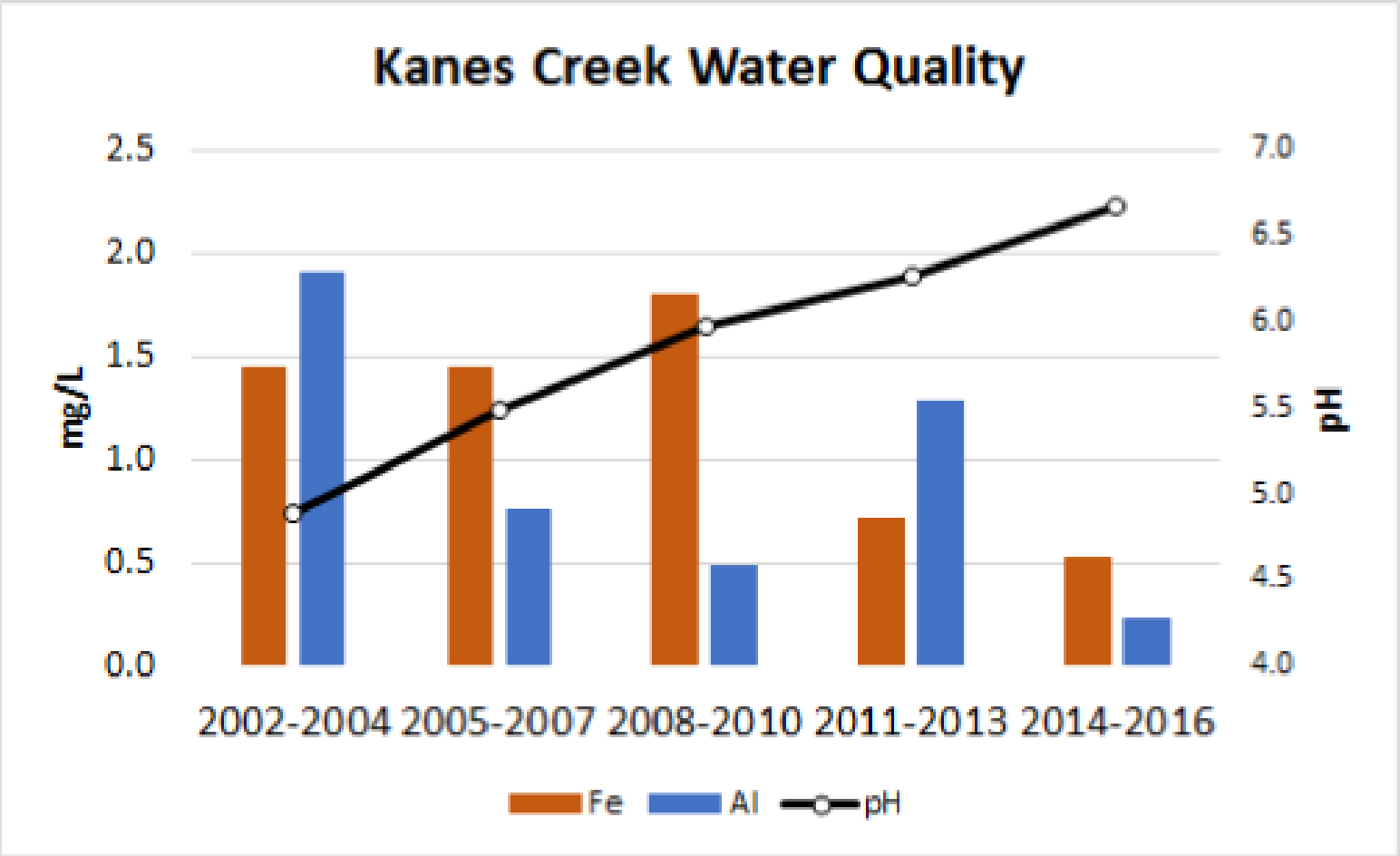
Cabela's



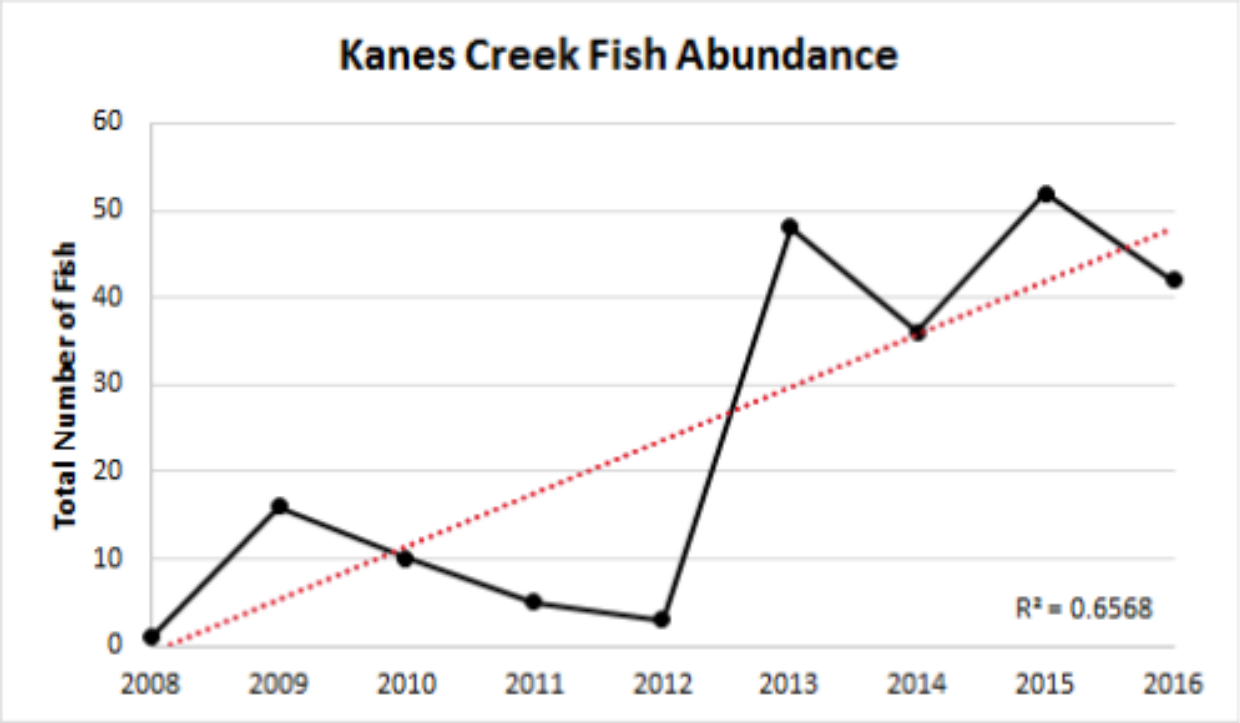
Kanes Creek Restoration

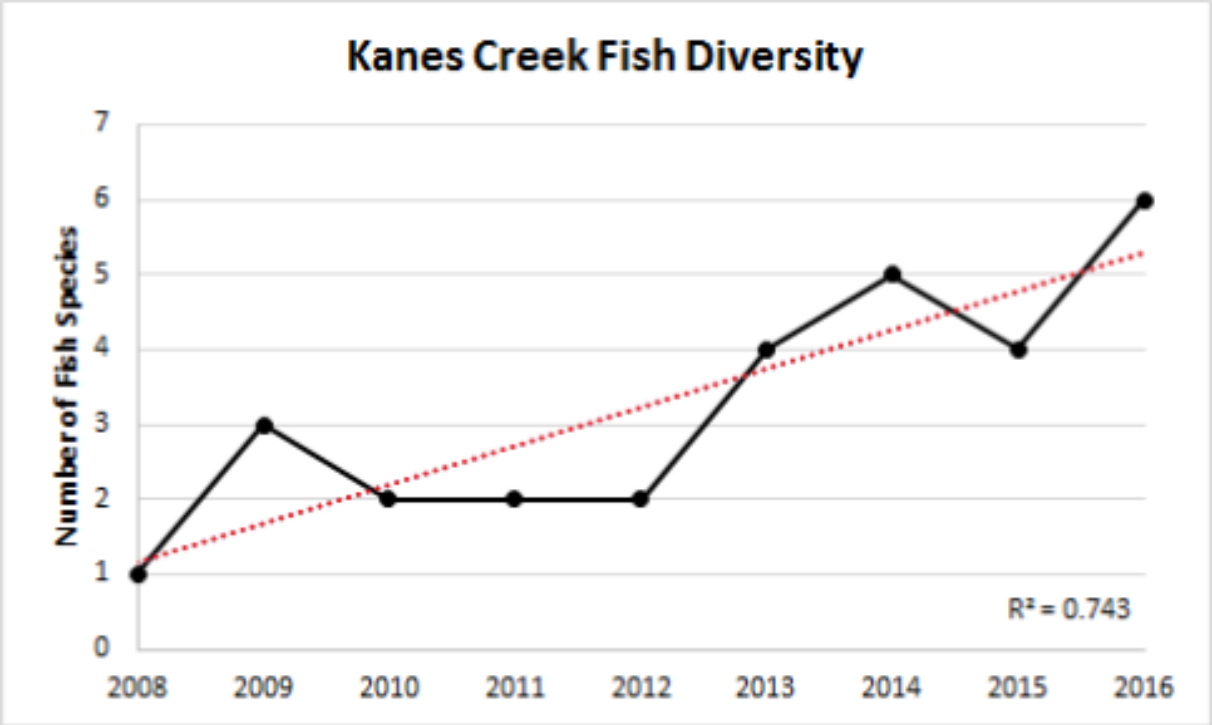


Kanes Creek Restoration



Kanes Creek Restoration





Kanes Creek South Site 1

Kanes Creek South Site 1

Pollutant	Pre-Treatment Load (lbs/yr)	Current Load (lbs/yr)	Load Reduction (lbs/yr)	Load Reduction (percent)
Acidity	30,592 lbs/yr	2,278 lbs/yr	28,314 lbs/yr	93%
Aluminum	827 lbs/yr	153 lbs/yr	674 lbs/yr	82%
Dissolved Aluminum		138 lbs/yr		
Iron	2604 lbs/yr	41 lbs/yr	2563 lbs/yr	98%
Dissolved Iron		8 lbs/yr		

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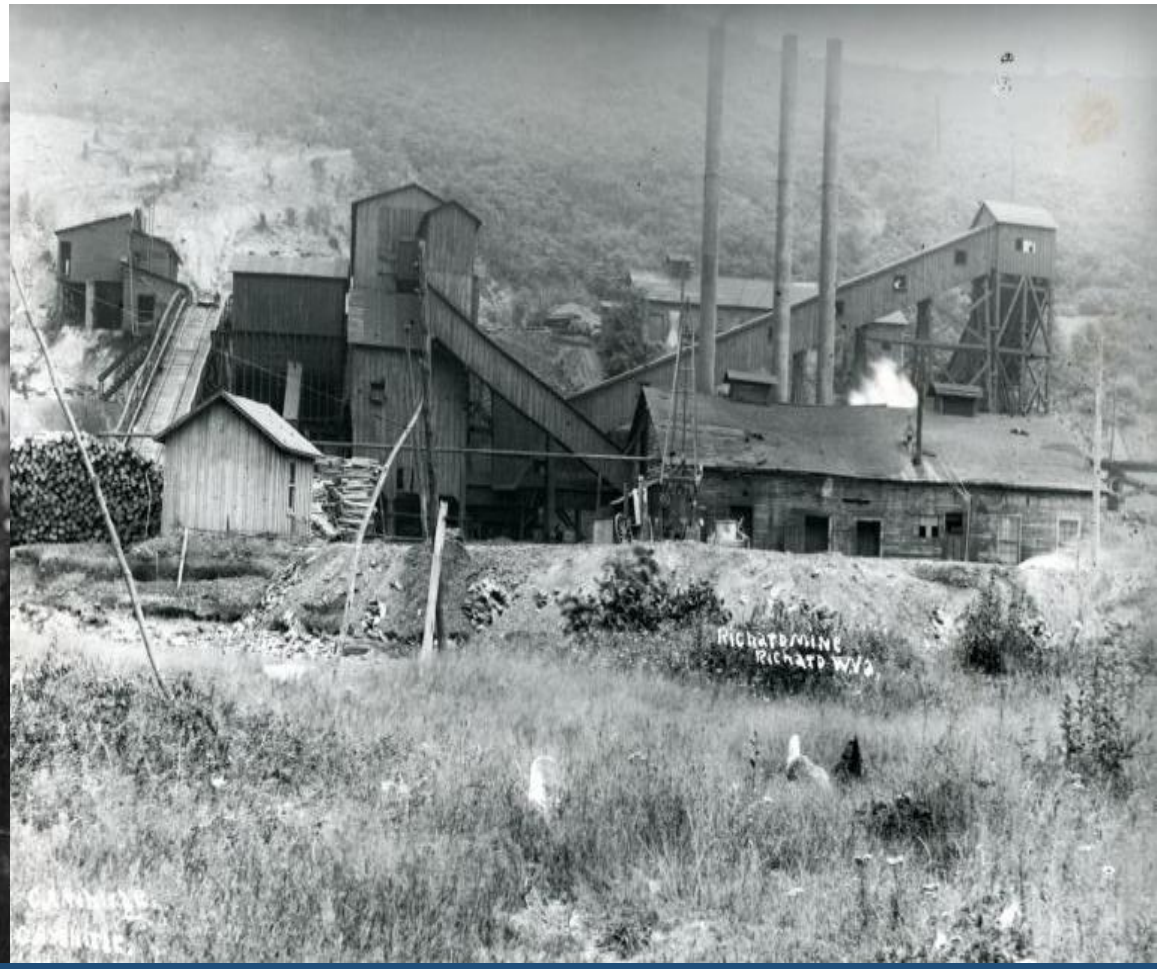
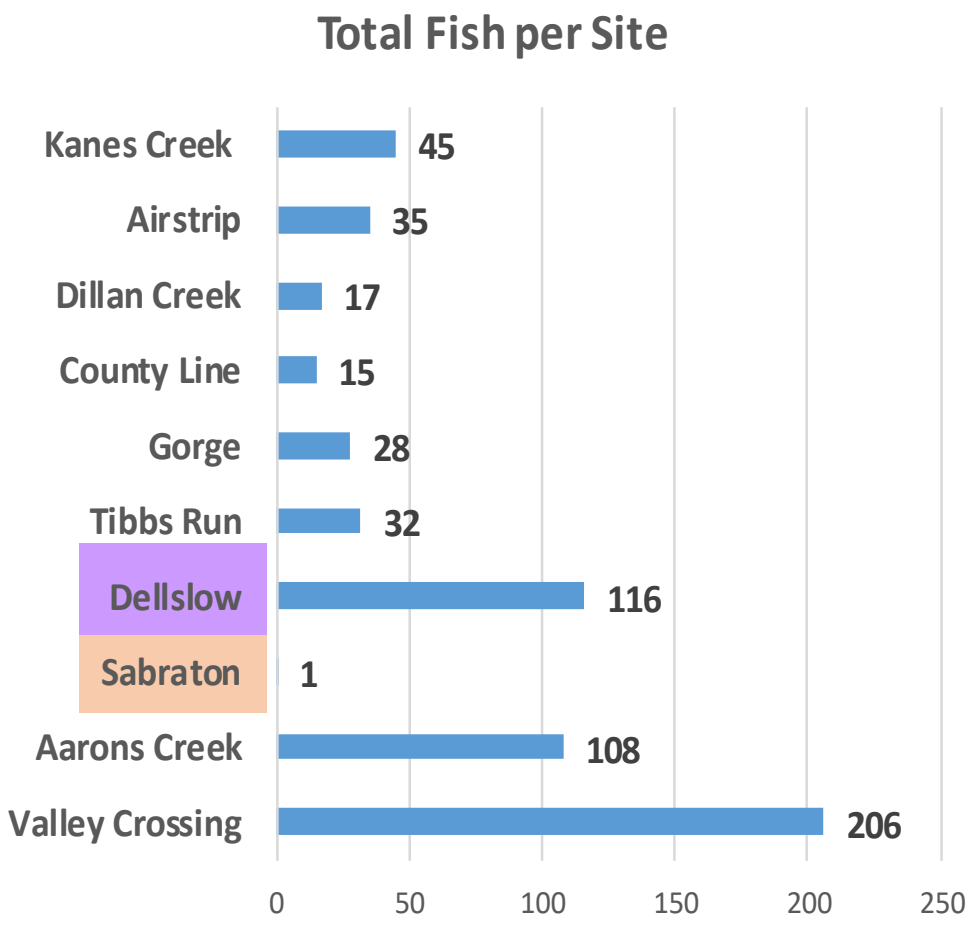
History of the Richard Mine



manganese	iron	aluminium
25	26	13
Mn	Fe	Al
3,200 lbs/yr	143,000 lbs/yr	59,000 lbs/yr

Currently, the mine discharges iron, aluminum, and manganese into Deckers Creek, at a combined rate of over 200,000 lbs of dissolved metals every year. That's over 500 lbs a day!

Fish Abundance Above and Below Richard



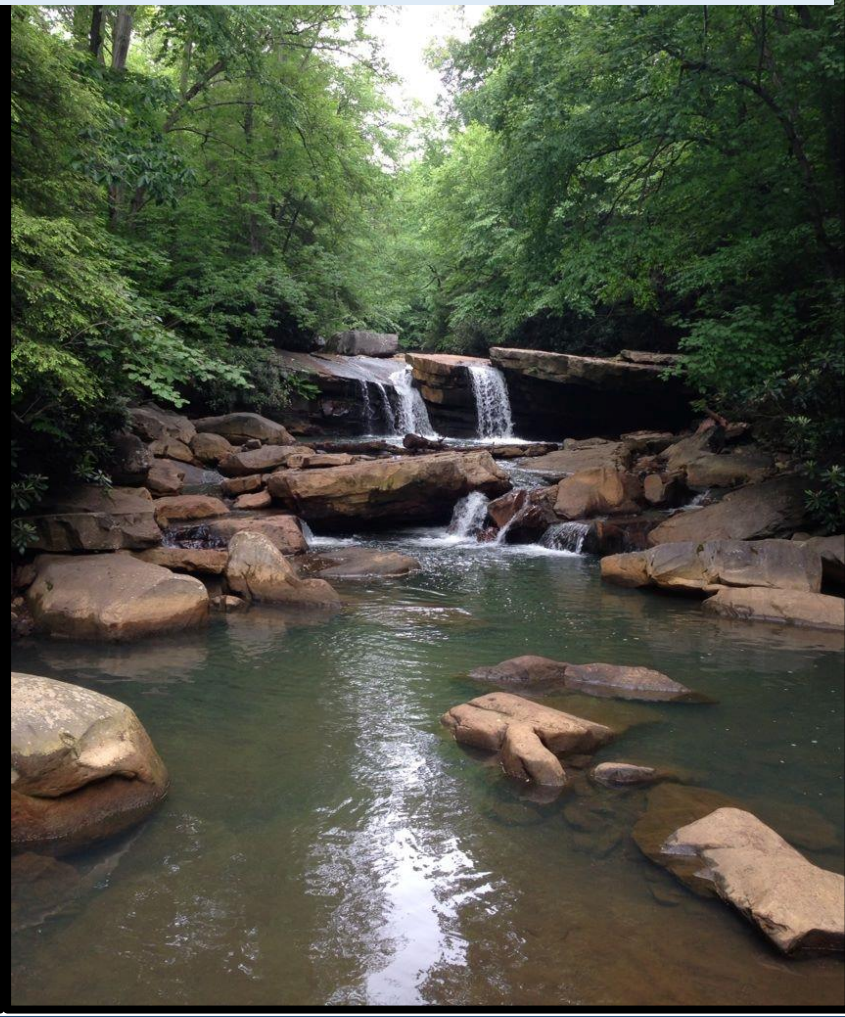
Future of the Richard Mine

- In 2017 the NRCS was awarded 3.375 million dollars to remediate the Richard Mine
- AML took on local sponsorship of the remediation, and has set in motion the land purchase
- A new bridge is being constructed to reach the property
- The treatment site is in the process of being designed

Future of the Richard Mine

- Treatment system has been described as T&T lite
- Active doser, one clarifier
- Sludge pumped back into mine, geotubes on site for emergency sludge pumping
- AML will be operator of the facility

Future of Deckers Creek



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Questions?