

Little Lick Creek Watershed Plan

Technical Team Meeting 5
Wednesday, August 31, 2005

Agenda

2:00 Welcome & announcements

2:15 Critical Lands Protection Analysis*

2:45 Break

3:00 Monitoring Findings and Subwatershed
Information

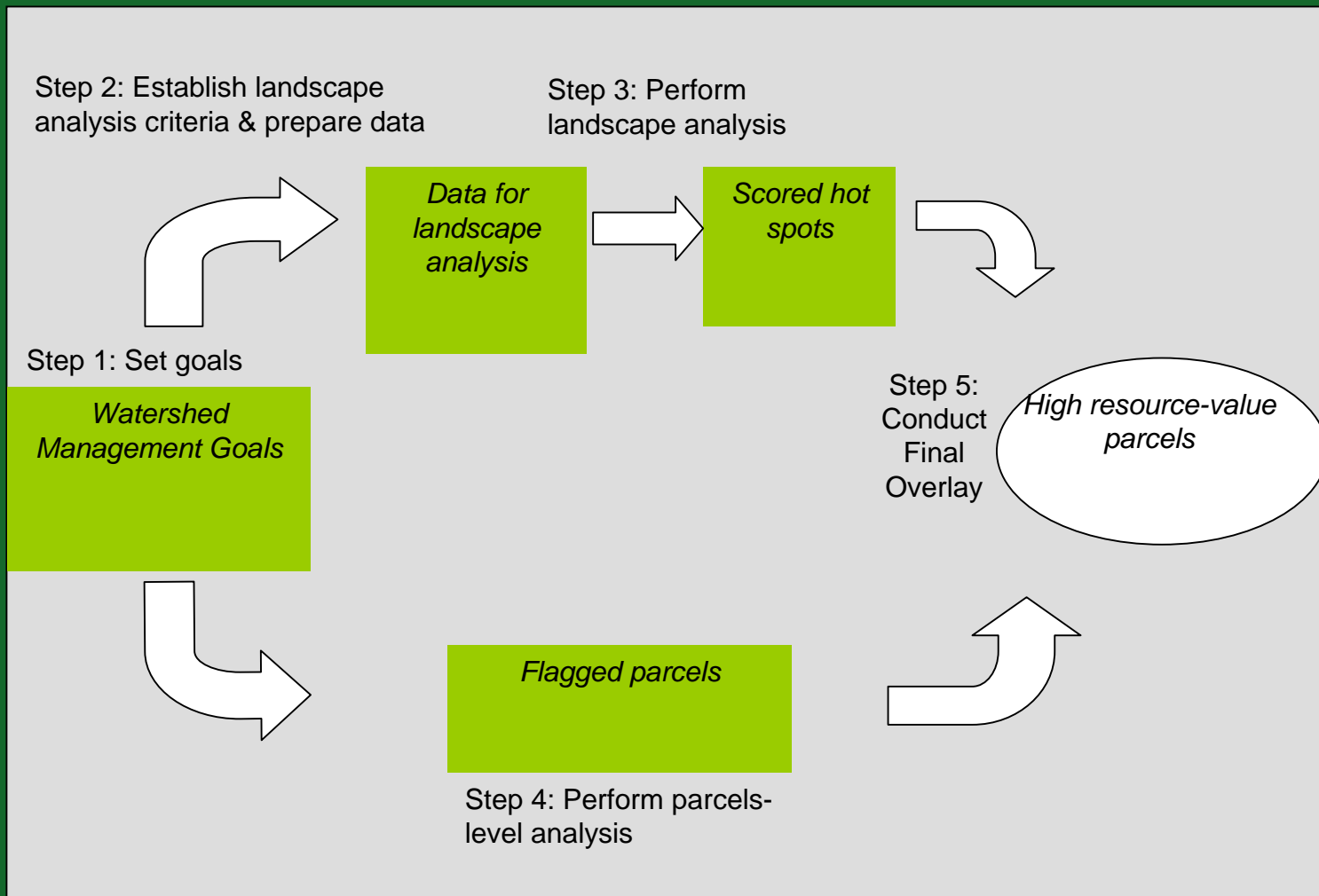
3:30 Prioritizing Restoration Projects*

4:00 Adjourn

* Decision Item

Critical Lands Protection Analysis

Analysis Process

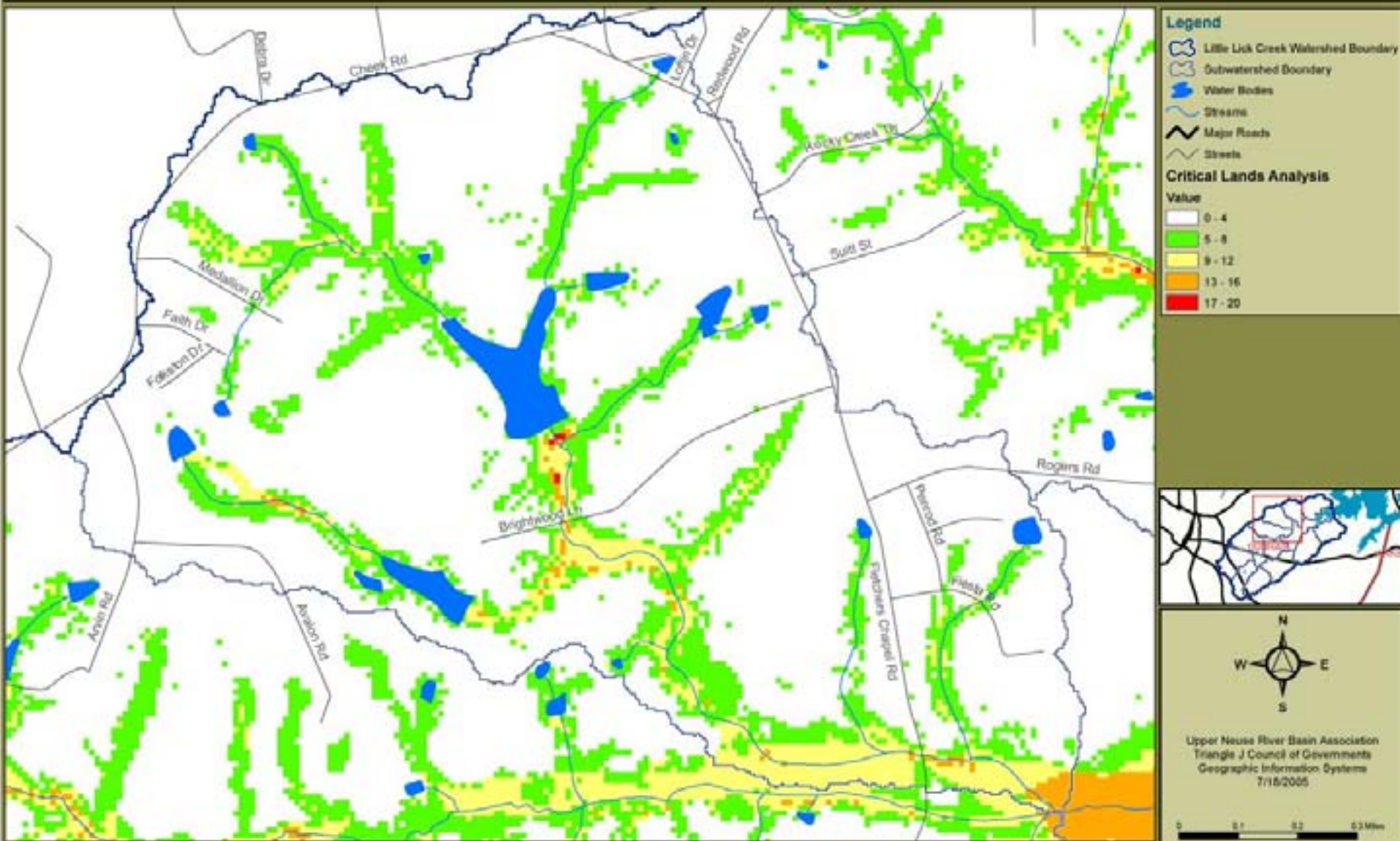


Landscape Analysis Results

Landscape Analysis Criteria (the presence of)	Priority Level	Data Set	Score	Percent of Total Score
Endangered, threatened or rare species or natural communities	High	Natural Heritage Element Occurance in the Little Lick Creek Watershed	3	11.54%
NC Natural Heritage Areas	High	Little Lick Creek Natural Heritage Areas	3	11.54%
Wetlands	High	Falls Lake functional wetland data for Little Lick Creek Watershed	3	11.54%
Floodplains	High	Little River flood hazard polygons	3	11.54%
Steep slopes: over 15%	High	Slopes in the Little River Watershed derived from 20-ft DEM	3	11.54%
Highly Erosive Soils	High	Little River Watershed soils data with K-values: A > 1.6	3	11.54%
	Medium	Little River Watershed soils data with K-values: A = 1.2-1.6	2	
	Low	Little River Watershed soils data with K-values: A = 0.8-1.2	1	
Outstanding geologic characteristics	Medium	Generalized geologic data for Little Lick Creek Watershed - Diabase Formation	2	7.69%
Significant forest cover: deciduous	High	Little River Watershed EPA landcover classes, 15 meter resolution - Landuse Code 310 (Woody-Deciduous) and 620 (Woody Wetland)	3	11.54%
Significant forest cover: Mixed deciduous/pine	High	Little River Watershed EPA landcover classes, 15 meter resolution - Landuse Code 330 (Woody-Mixed)	3	
Significant forest cover: pine	Medium	Little River Watershed EPA landcover classes, 15 meter resolution - Landuse Code 320 (Woody-Evergreen)	2	
Area close to Little Lick Creek or tributaries: 50 feet	High	50-ft buffer of Little Lick Creek and tributaries derived from combined Durham Hydro and USGS 1:24K	3	11.54%
Area close to Little Lick Creek or tributaries: 100 feet	Medium	100-ft buffer of Little Lick Creek and tributaries derived from combined Durham Hydro and USGS 1:24K	2	
Area close to Little Lick Creek or tributaries: 330 feet	Low	330-ft buffer of Little Lick Creek and tributaries derived from combined Durham Hydro and USGS 1:24K	1	
Total			26	100.00%

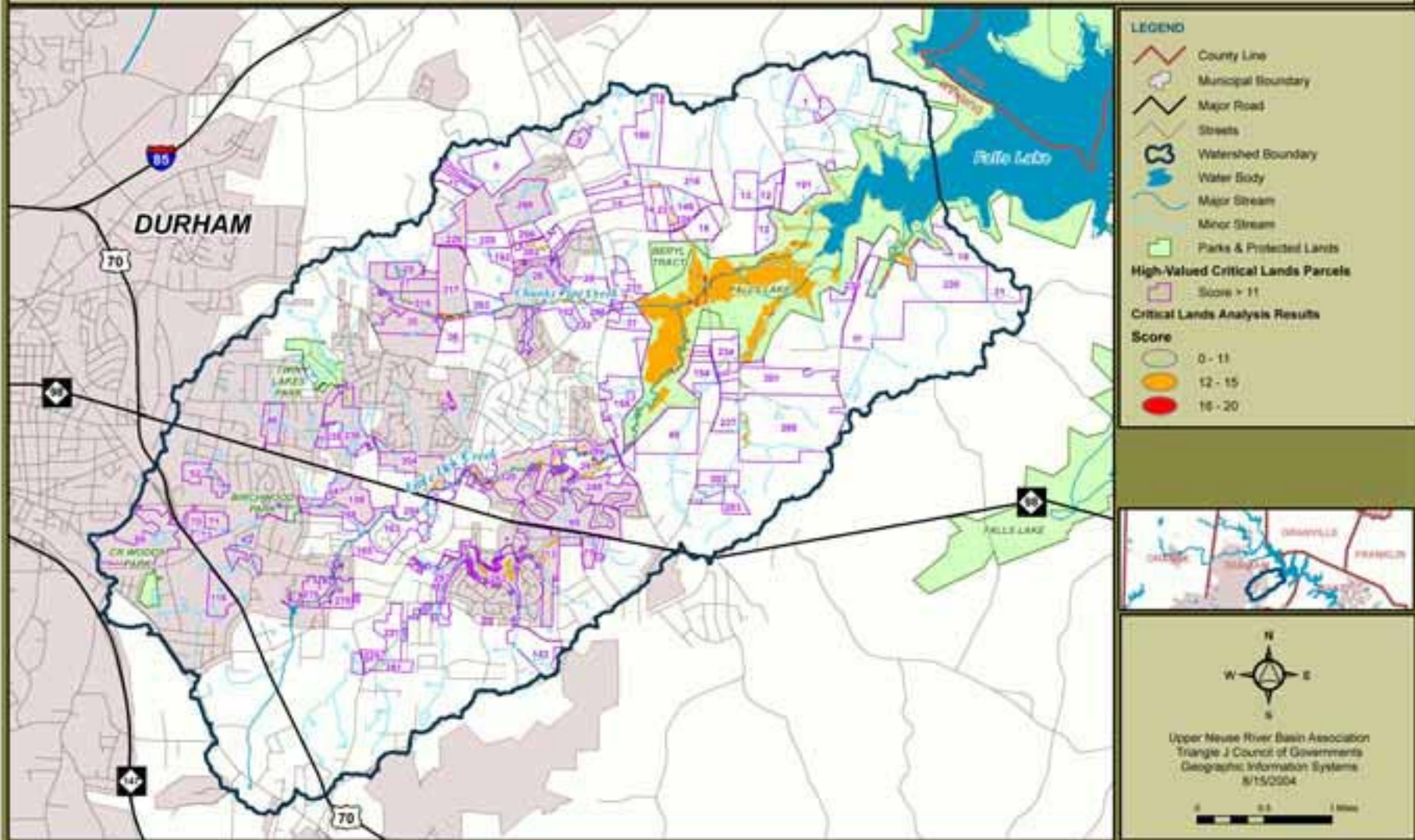
Priority Protection Areas

Little Lick Creek Critical Areas Analysis - Subwatershed 8 (Draft, 7/18/2005)



High-Scoring Parcels

Little Lick Creek Watershed Critical Lands Analysis



Parcels-level Analysis Results

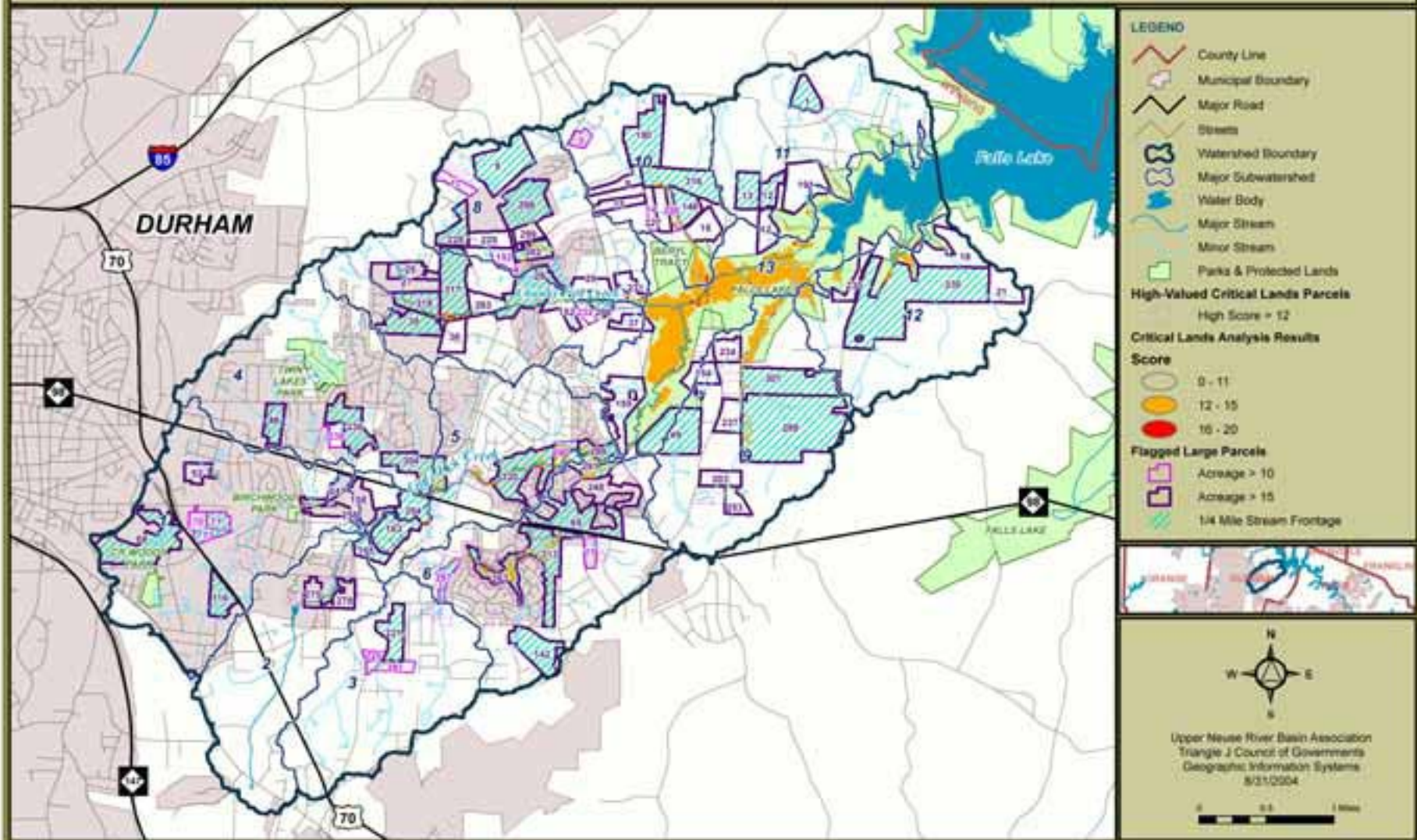
Parcel “Flags”

Of the 320 parcels...

- 78 are over 10 acres
- 62 are adjacent to protected lands
- 14 contain prime farmlands
- 3 have historical or cultural features
- 41 have ¼-mile stream frontage
- 57 intersect planned trails
- 133 are developable
- 31 were subdivided in floodplains prior to UDO adoption

Parcels with Key Flags

Little Lick Creek Watershed Critical Lands Analysis



Results

1. Parcels over 15 acres (65)
2. Parcels over 10 acres or with at least one flag (201)

Results

Total # parcels = 320

SW #6 contains 112 parcels

Total area identified = 3493 acres

SW #9 contains 557 acres

SW #7 contains 428 acres

Next Steps

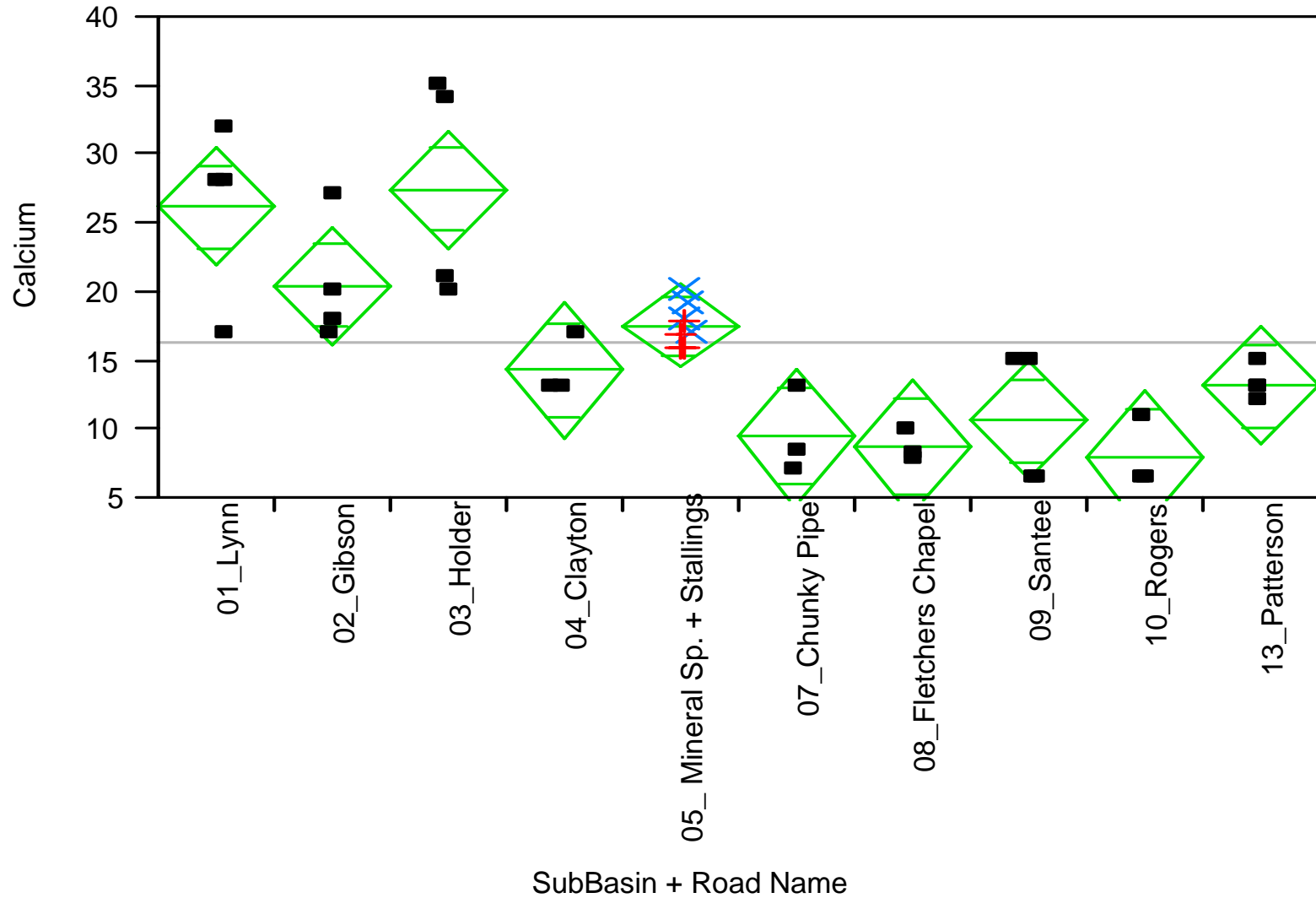
1. Conduct field verification of critical lands analysis
2. Finalize critical lands analysis and update technical memorandum

BREAK

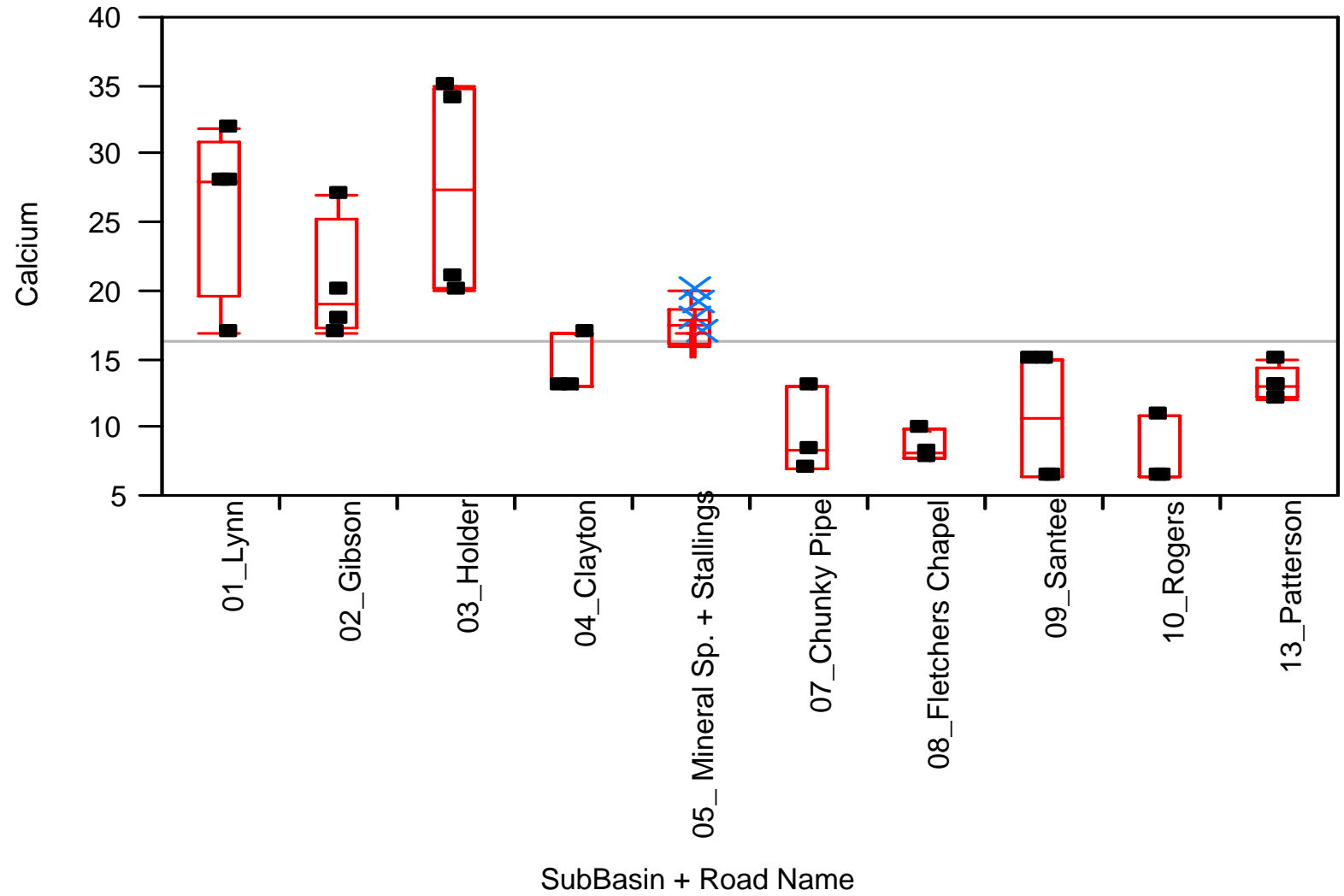
Little Lick Creek
Water quality by subwatershed

Steve Kroeger
NC Division of Water Quality

Scattergrams – means diamonds

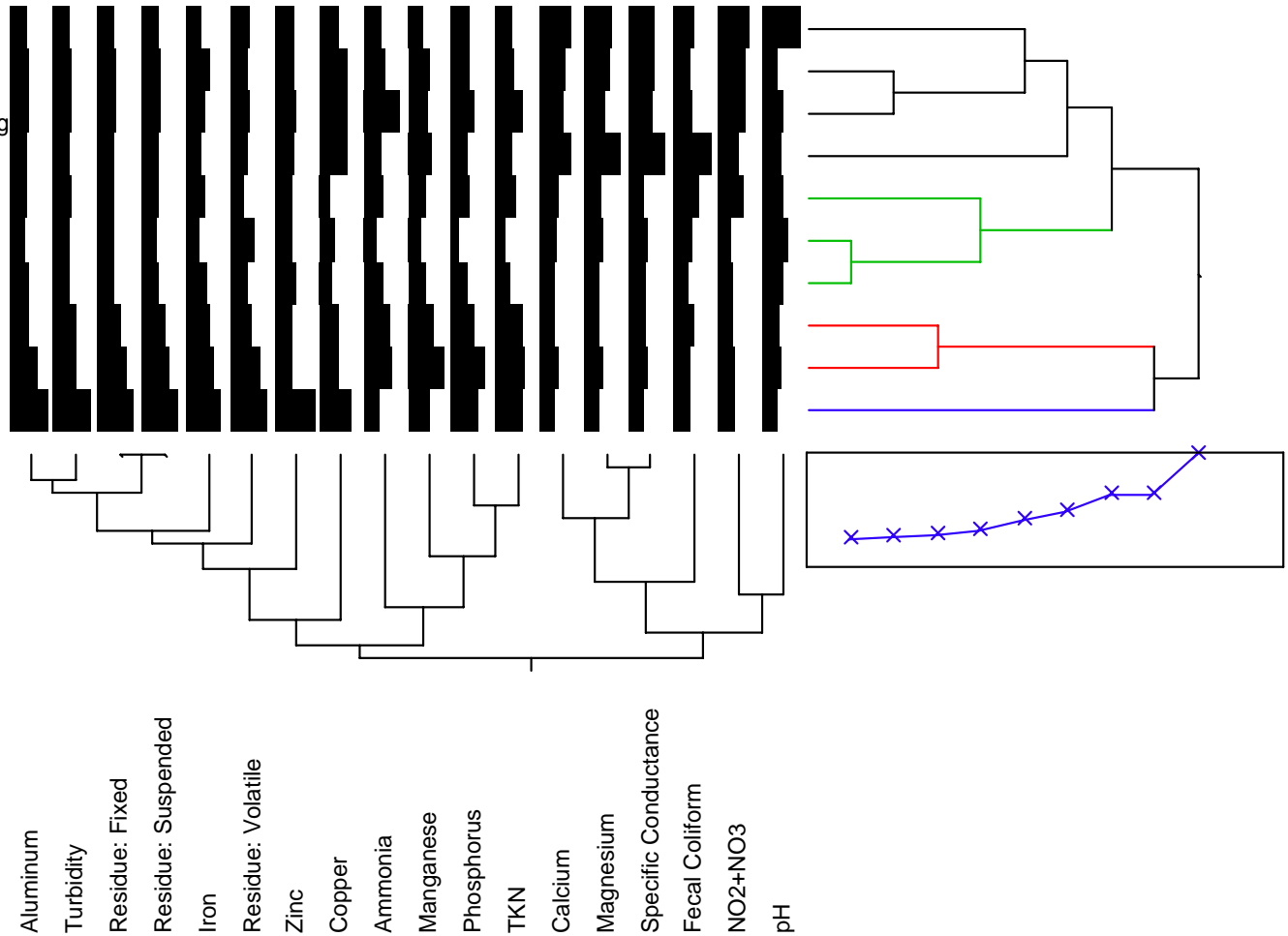


Scattergrams - Box and whisker plots

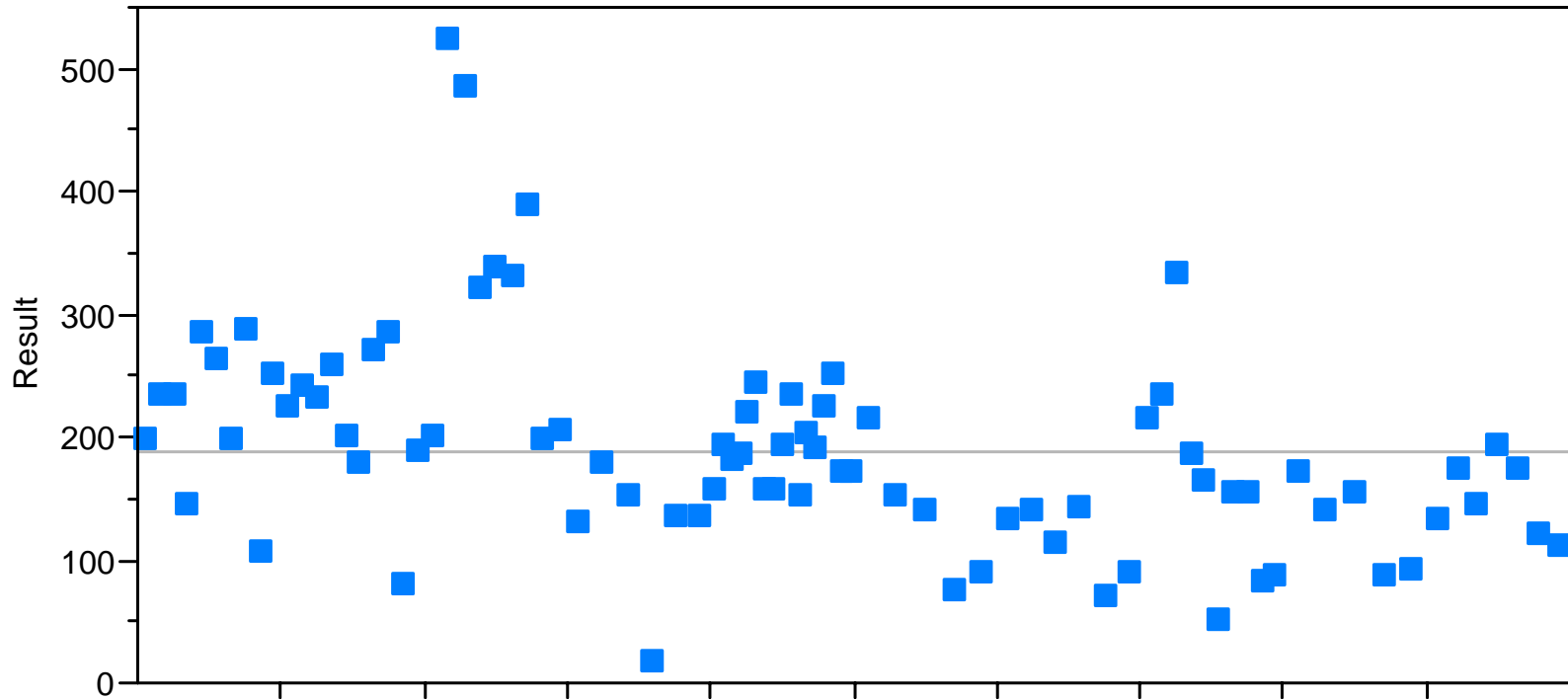


Cluster Analysis

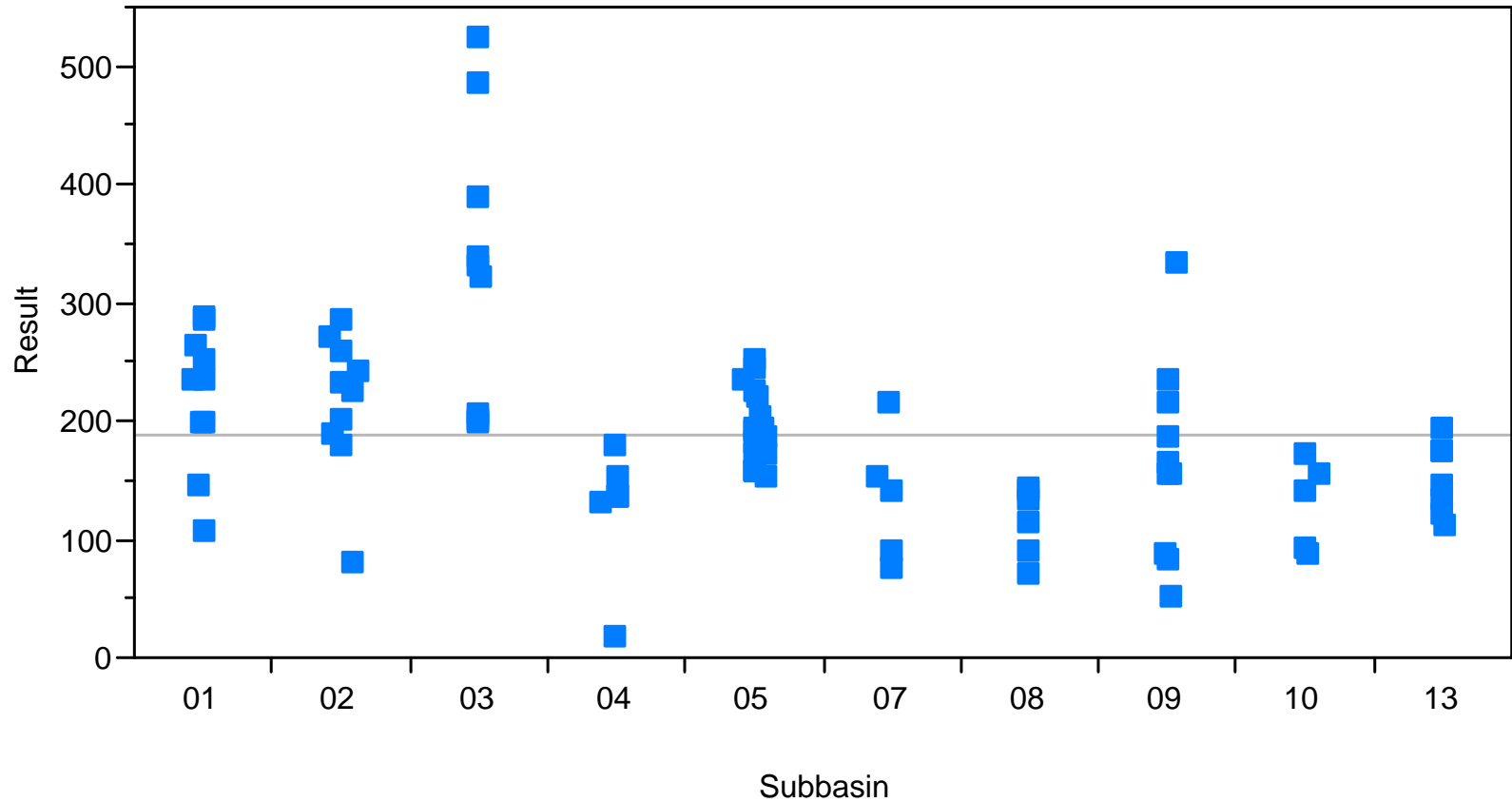
- 01_Lynn
- 02_Gibson
- 05_Mineral Sp. + Stalling
- 03_Holder
- 04_Clayton
- 09_Santee
- 10_Rogers
- 07_Chunky Pipe
- 13_Patterson
- 08_Fletchers Chapel

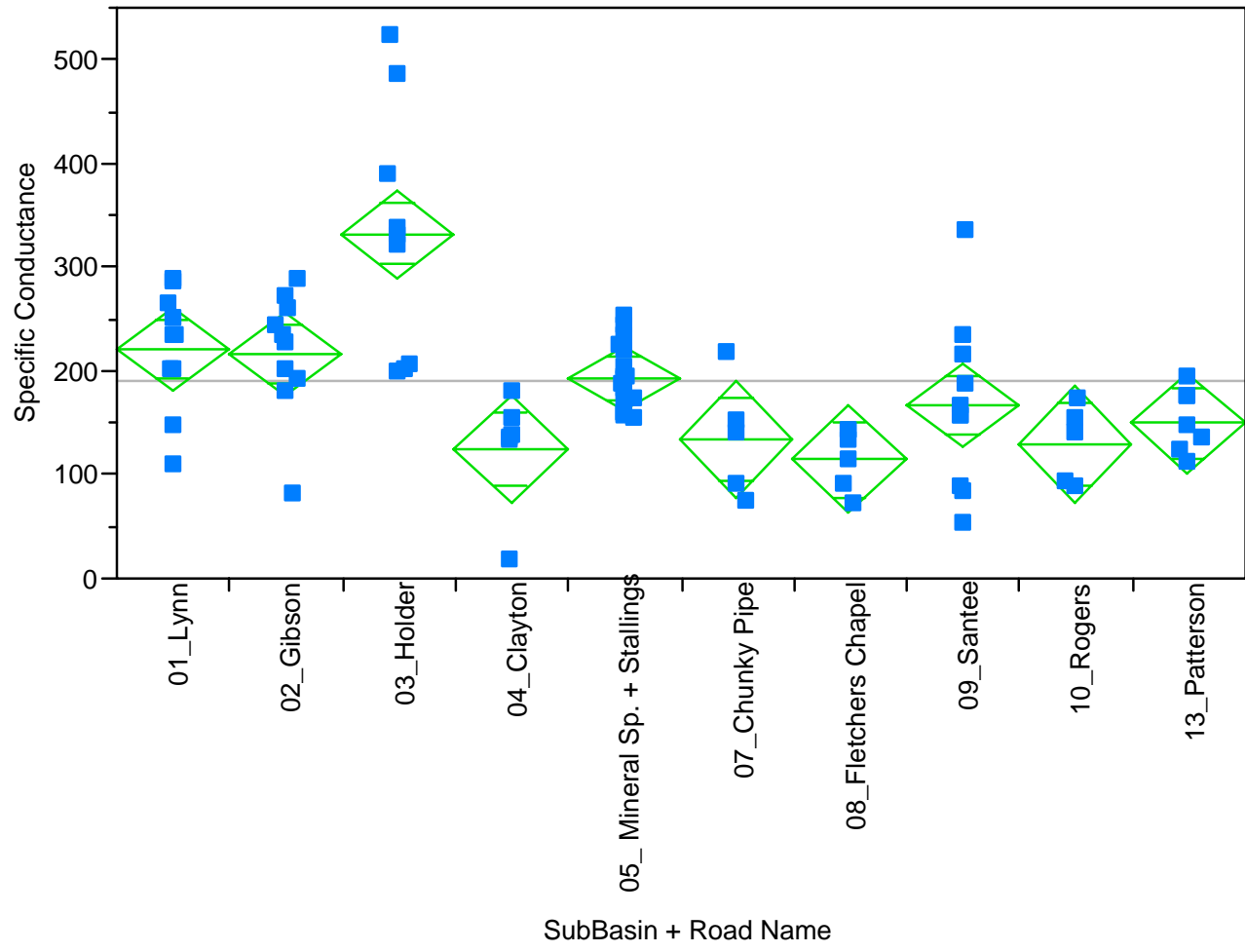


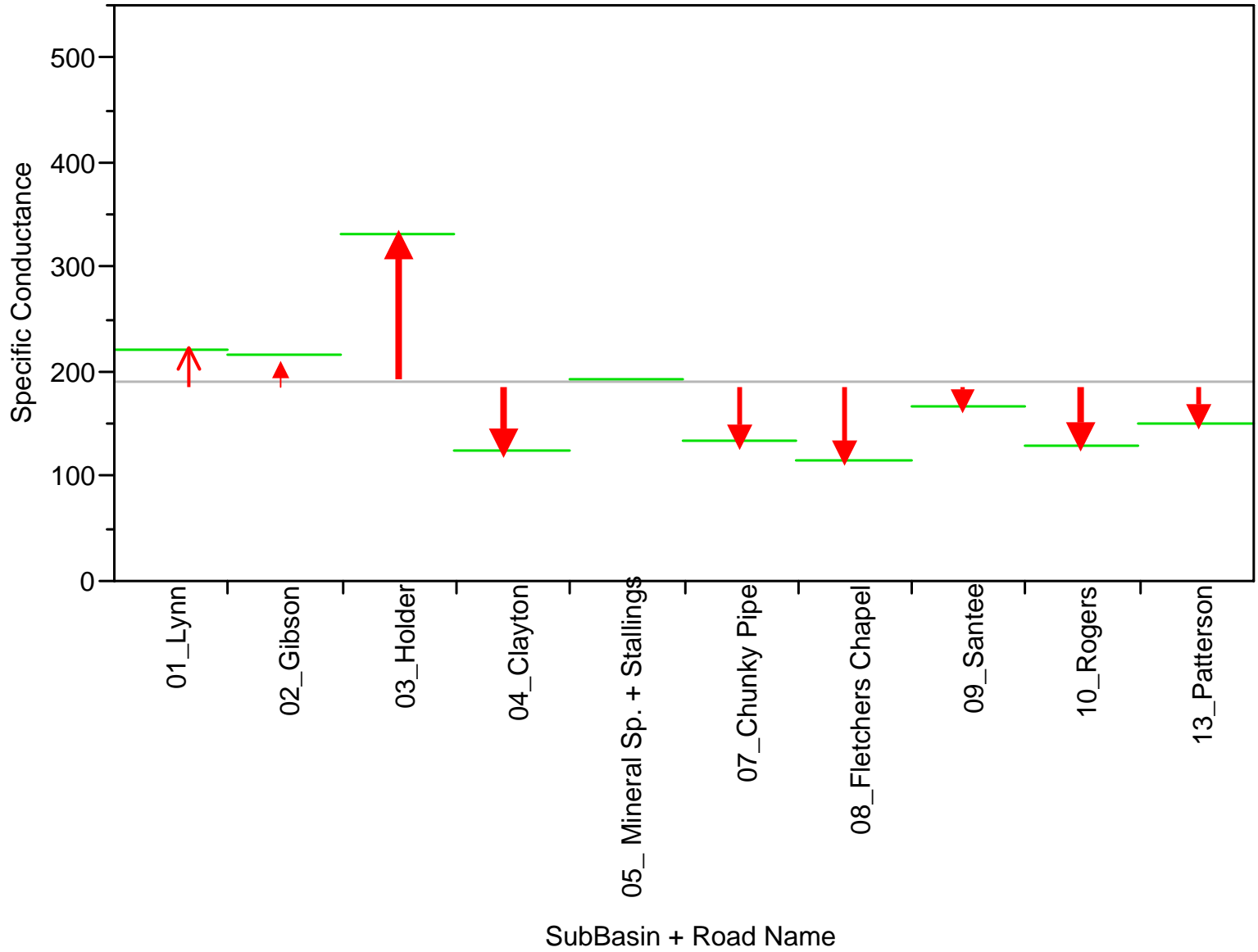
Plot results



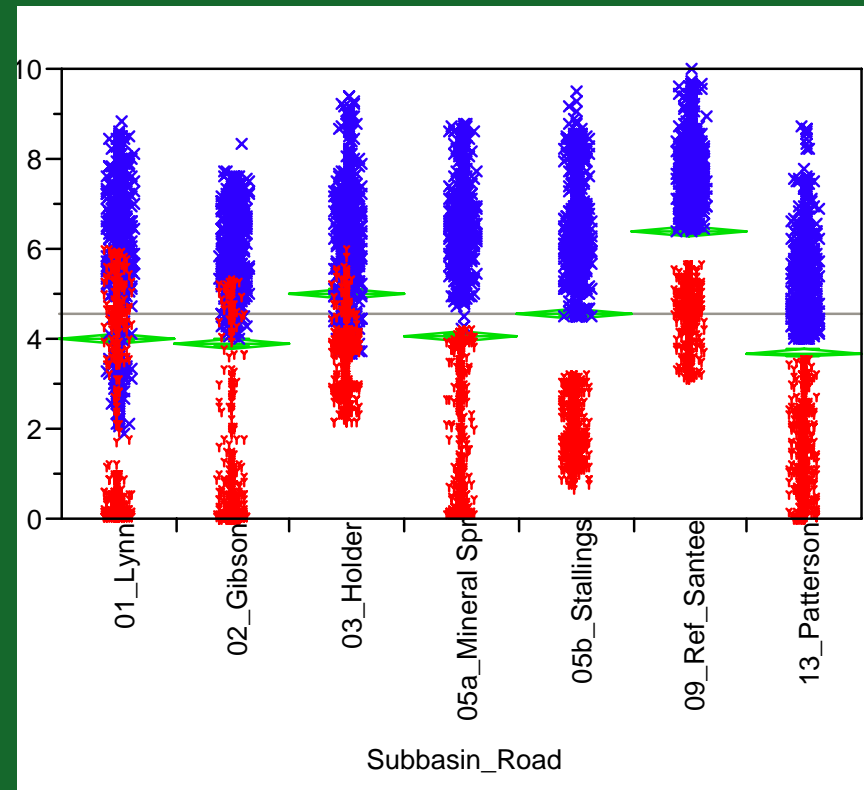
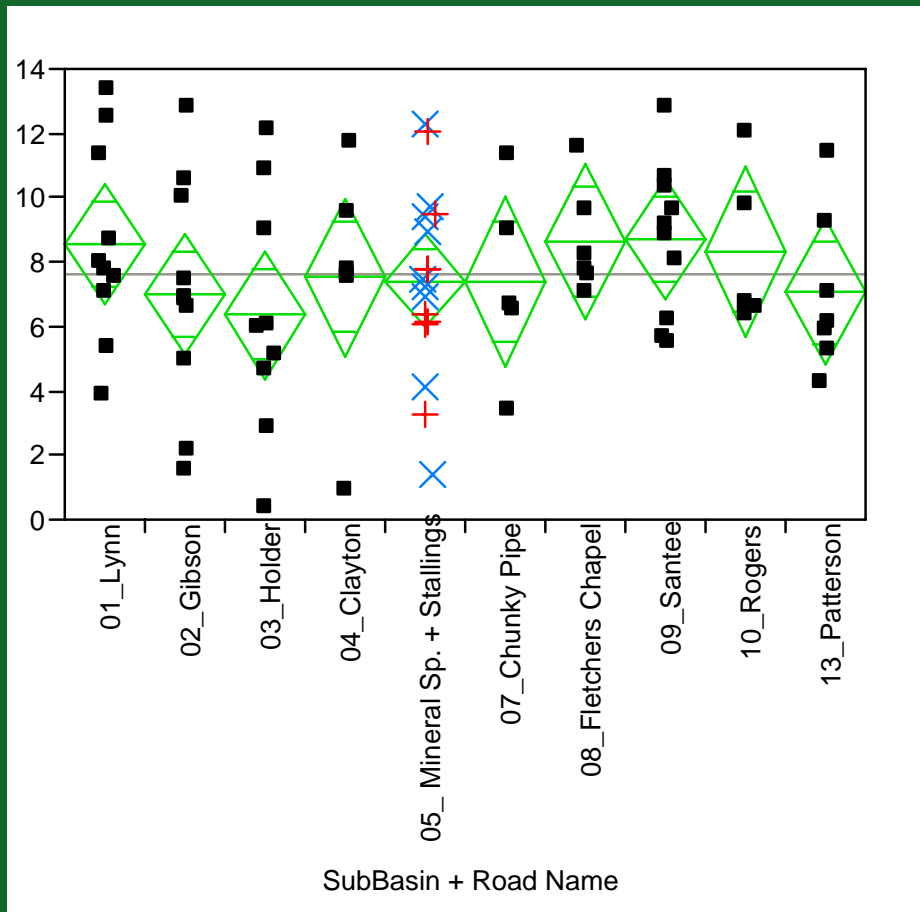
Group Results

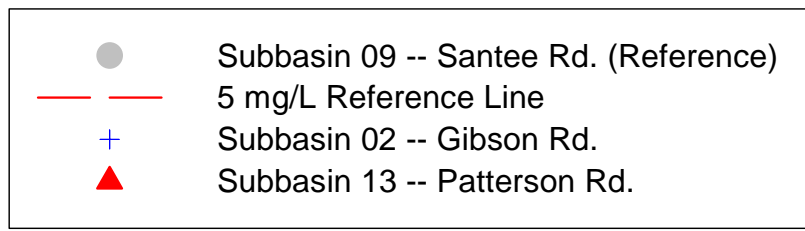
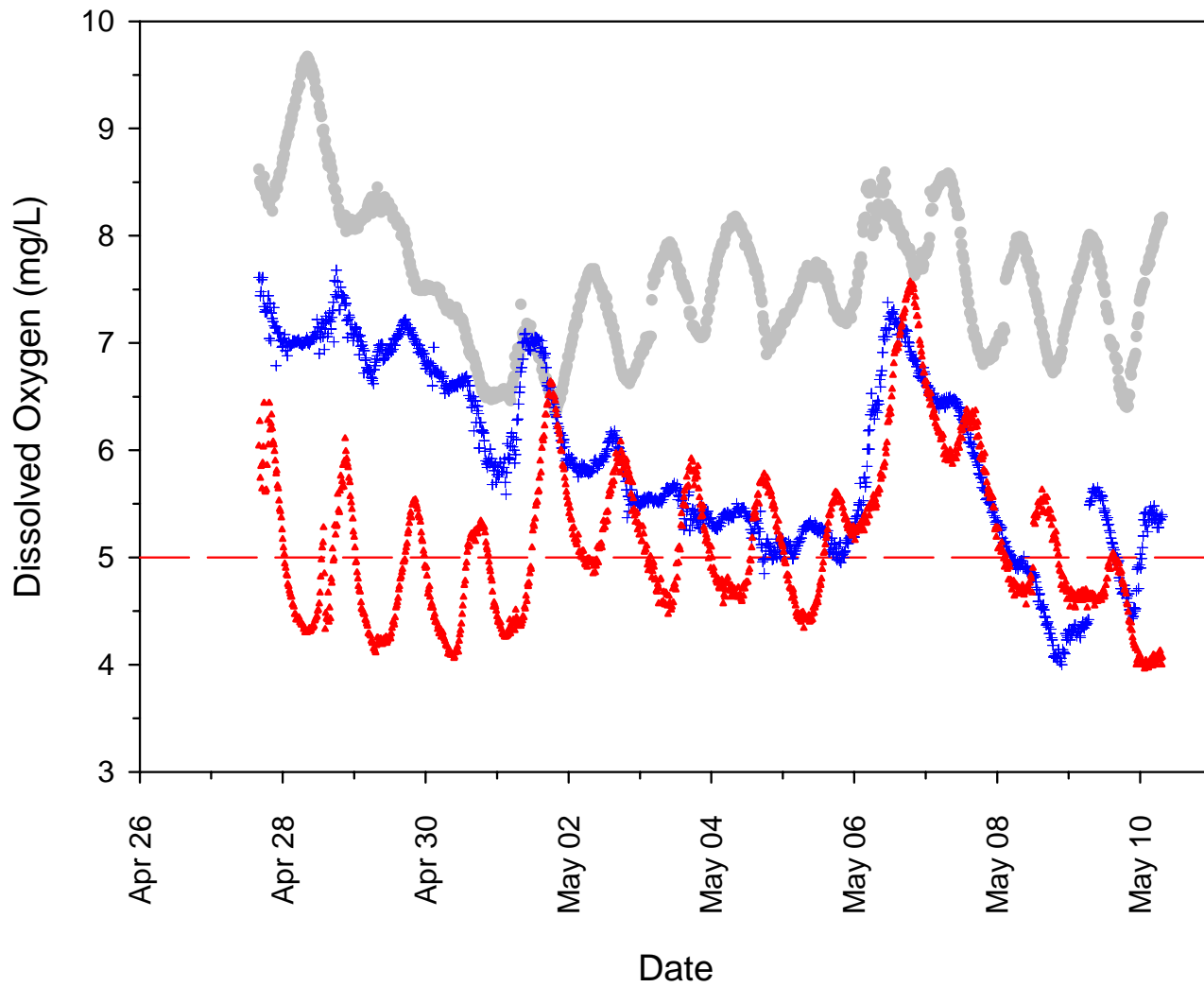




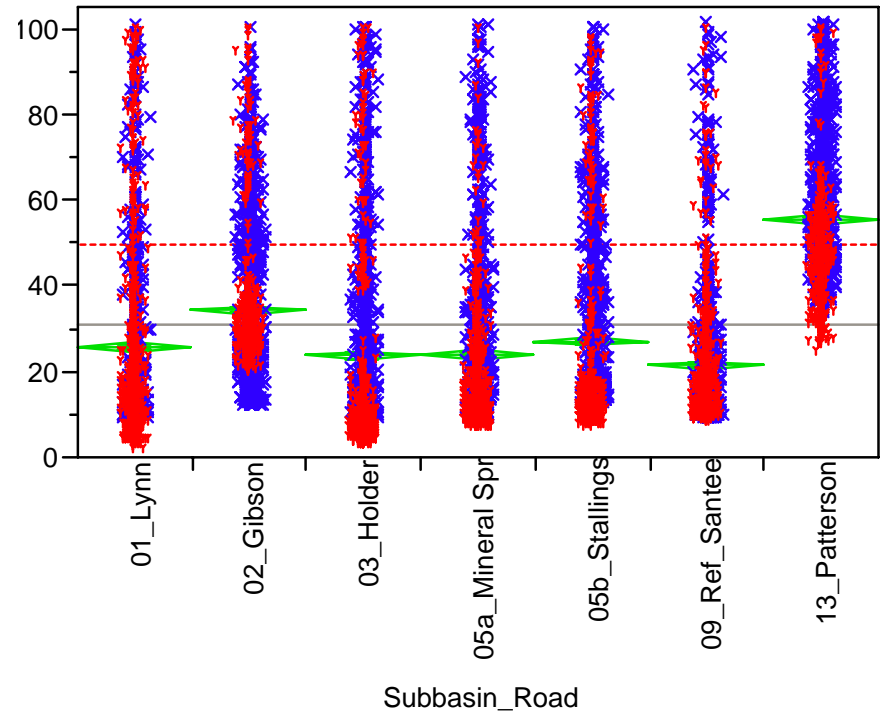
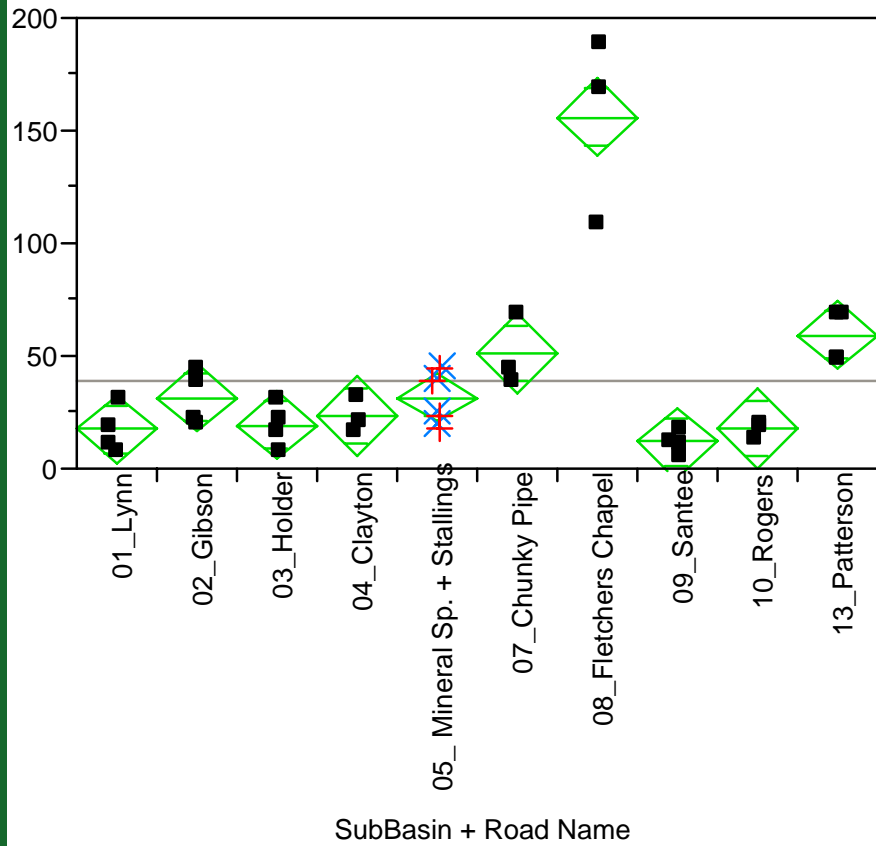


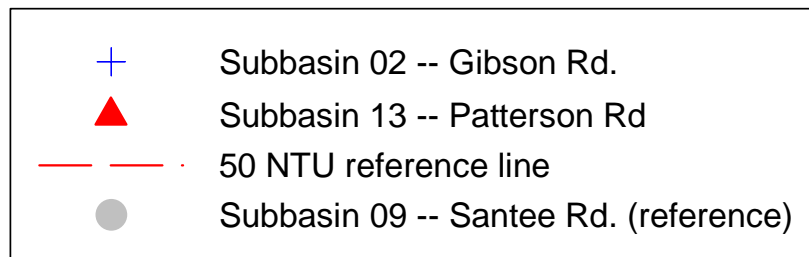
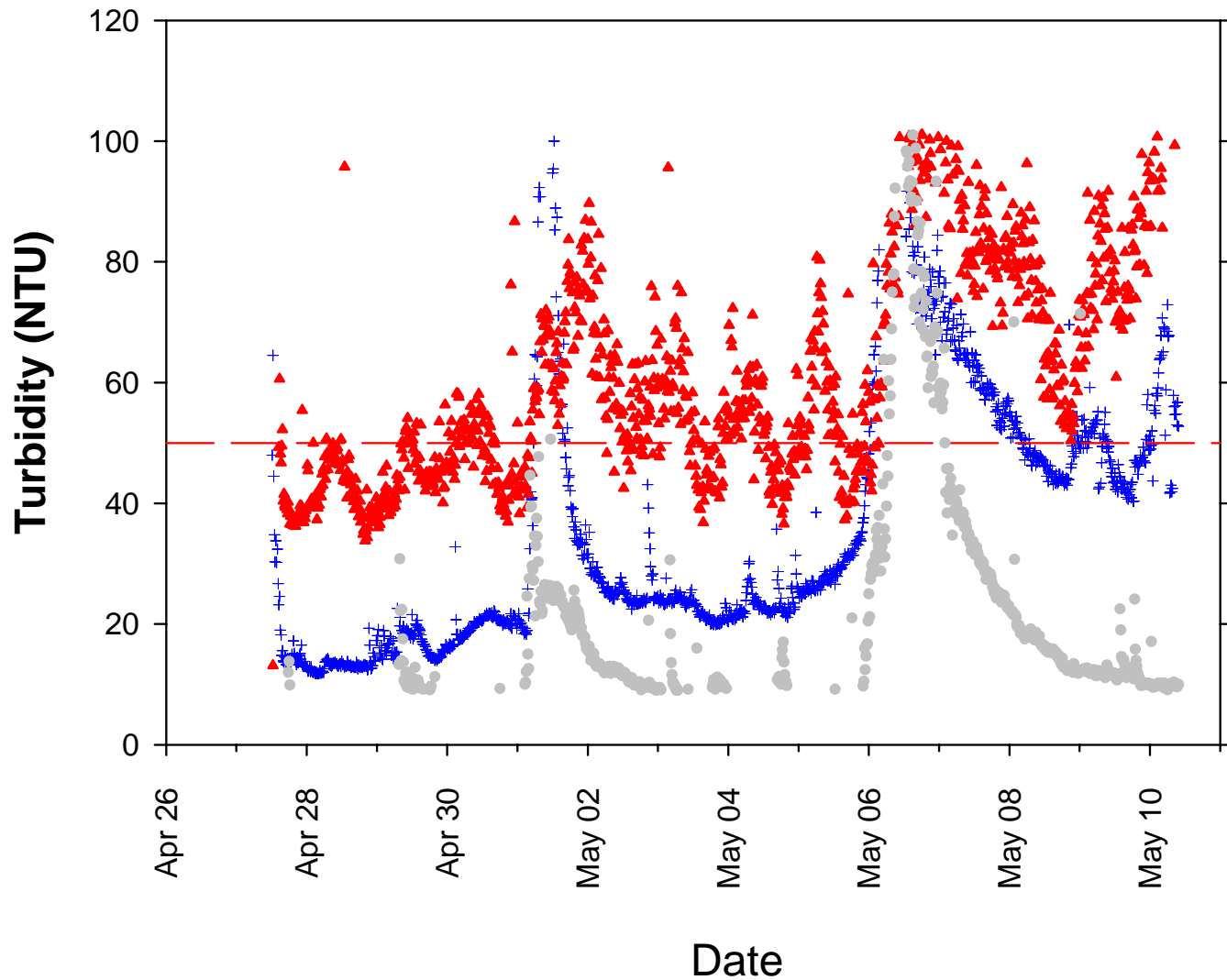
Dissolved Oxygen



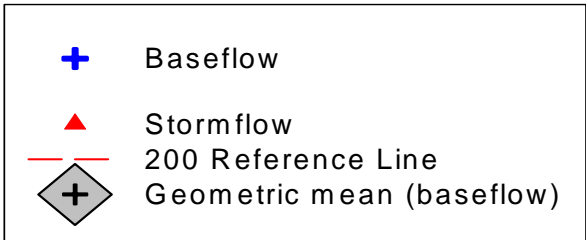
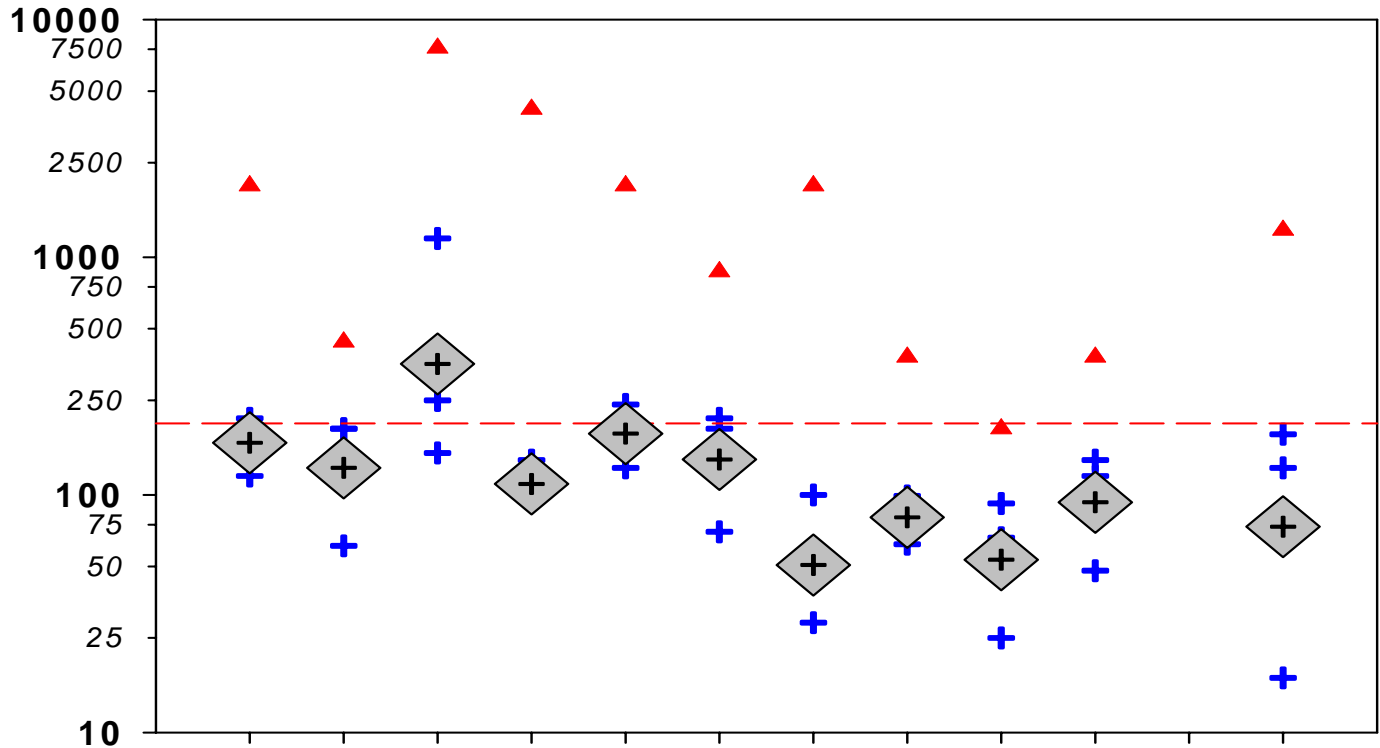


Turbidity

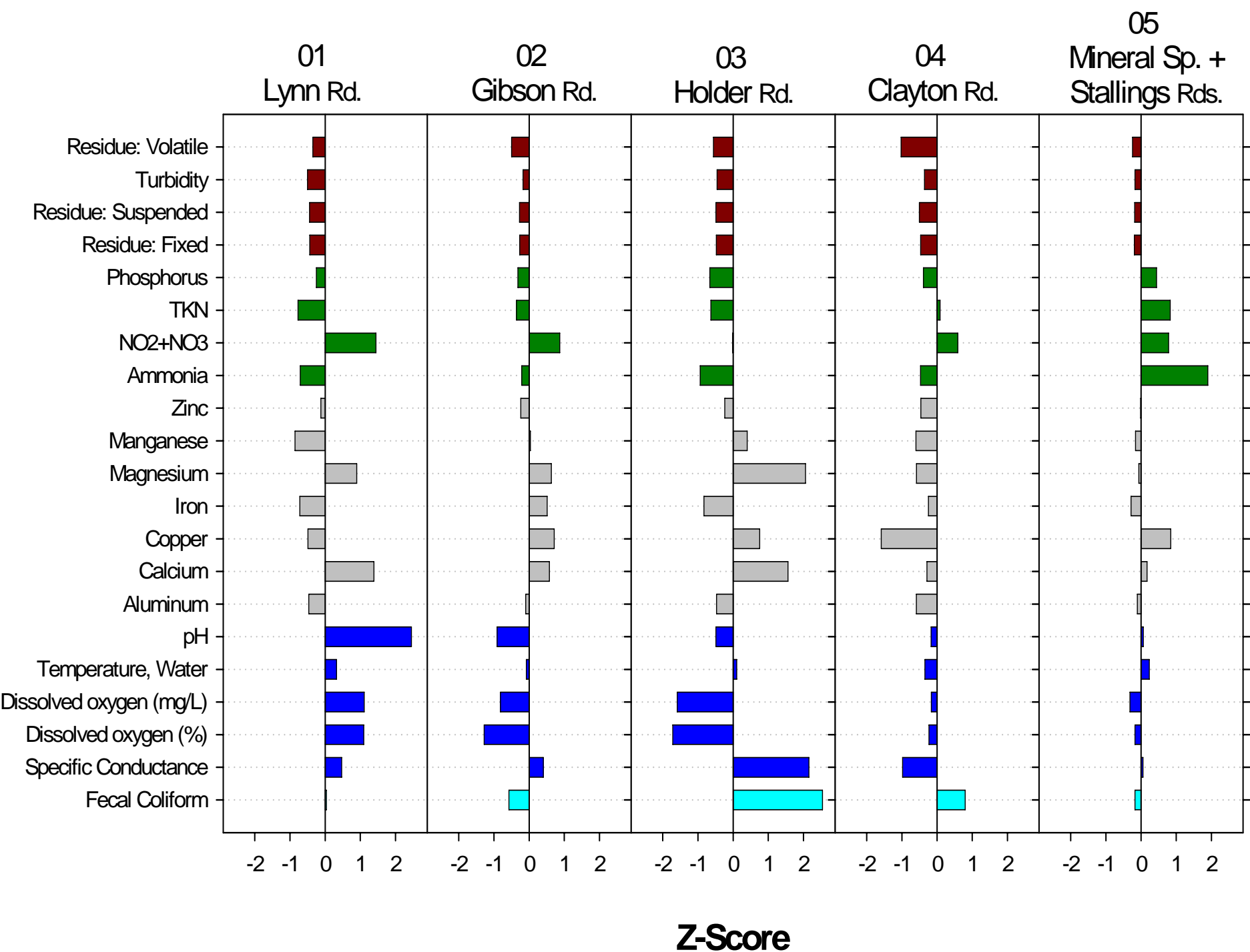


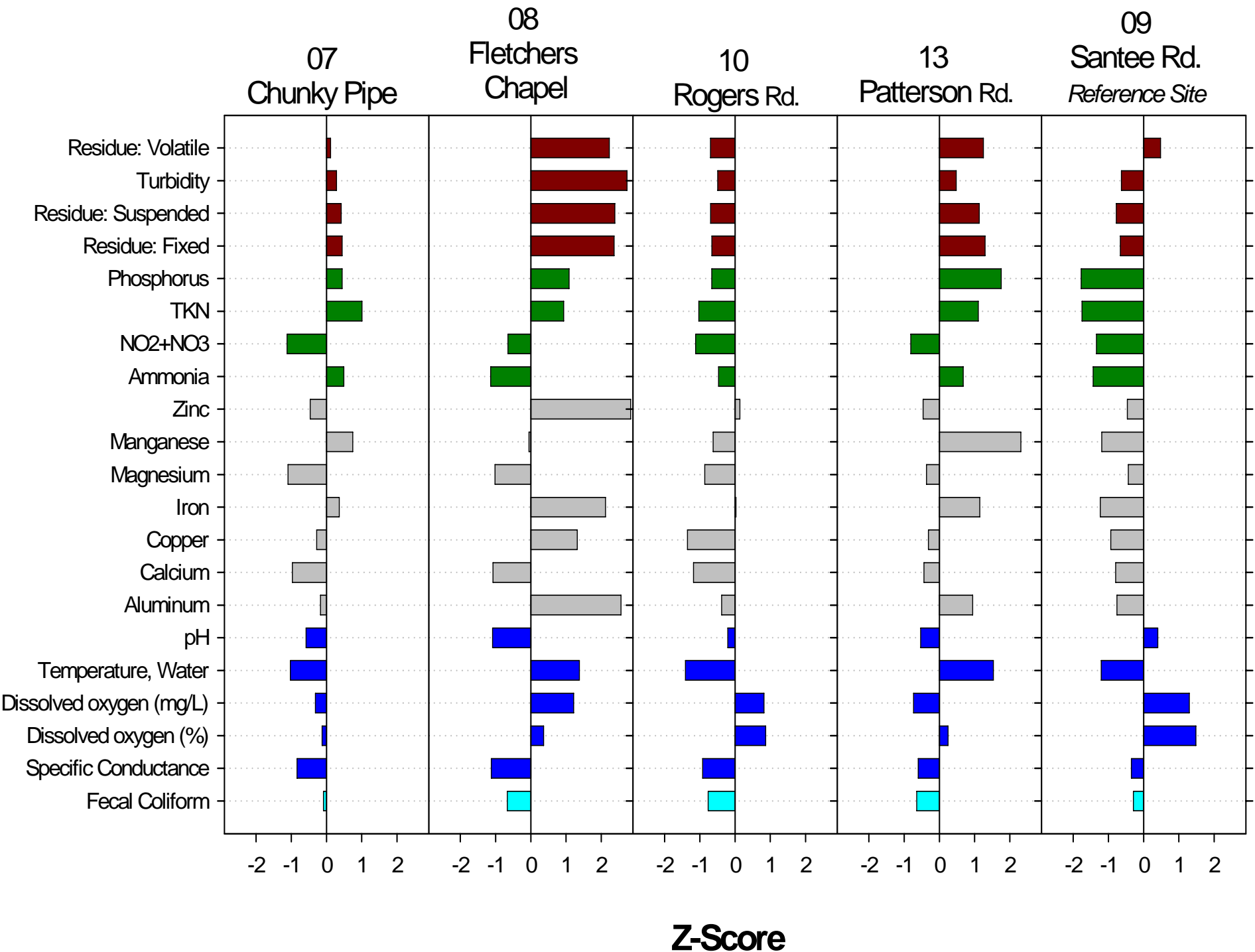


Fecal Coliform Bacteria



Site





Spreadsheets (matrices)

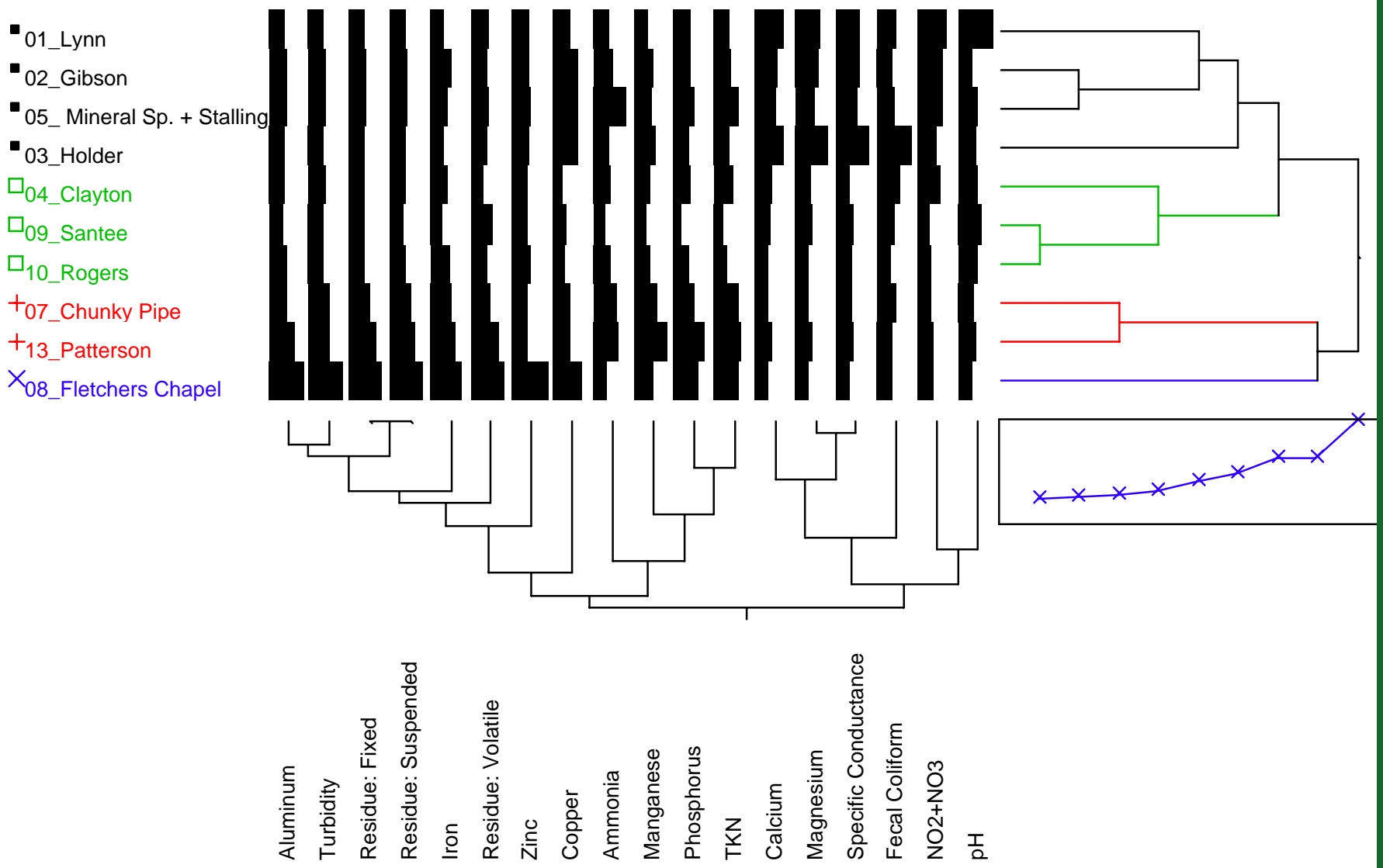
moving columns and rows

NO loss of information

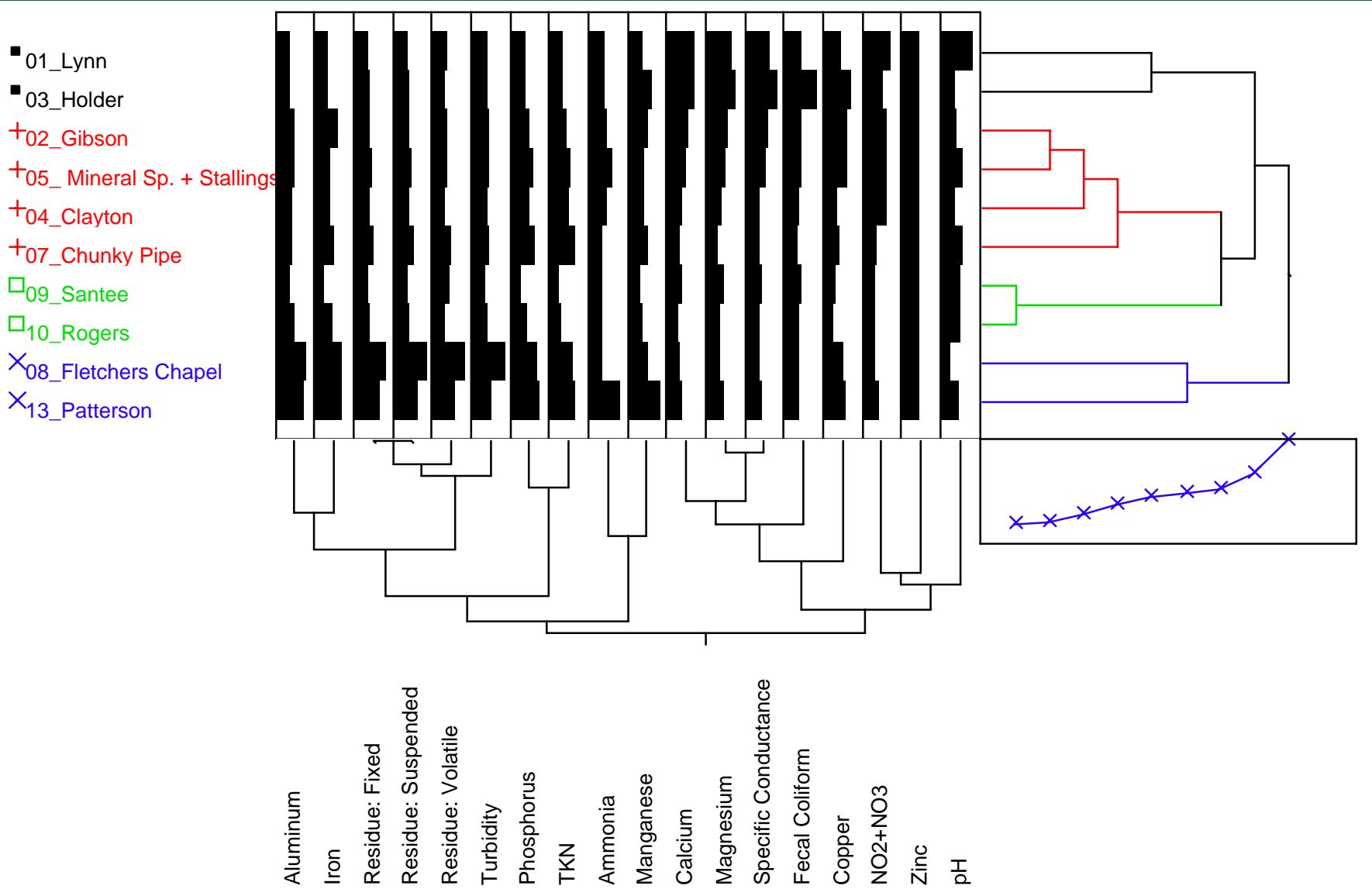
Initial Group -- Unorganized								Resulting Group -- Organized							
Sites								Sites							
Species	1	2	3	4	5	6	7	Species	1	7	2	4	6	5	3
A	1							A	1						
B	1						1	B	1	1					
C	1	1					1	C	1	1	1				
D				1	1	1		E		1	1	1			
E		1		1			1	F			1	1	1		
F		1		1		1		D				1	1	1	
G			1		1	1		G					1	1	1
H			1		1			H						1	1
I			1					I							1

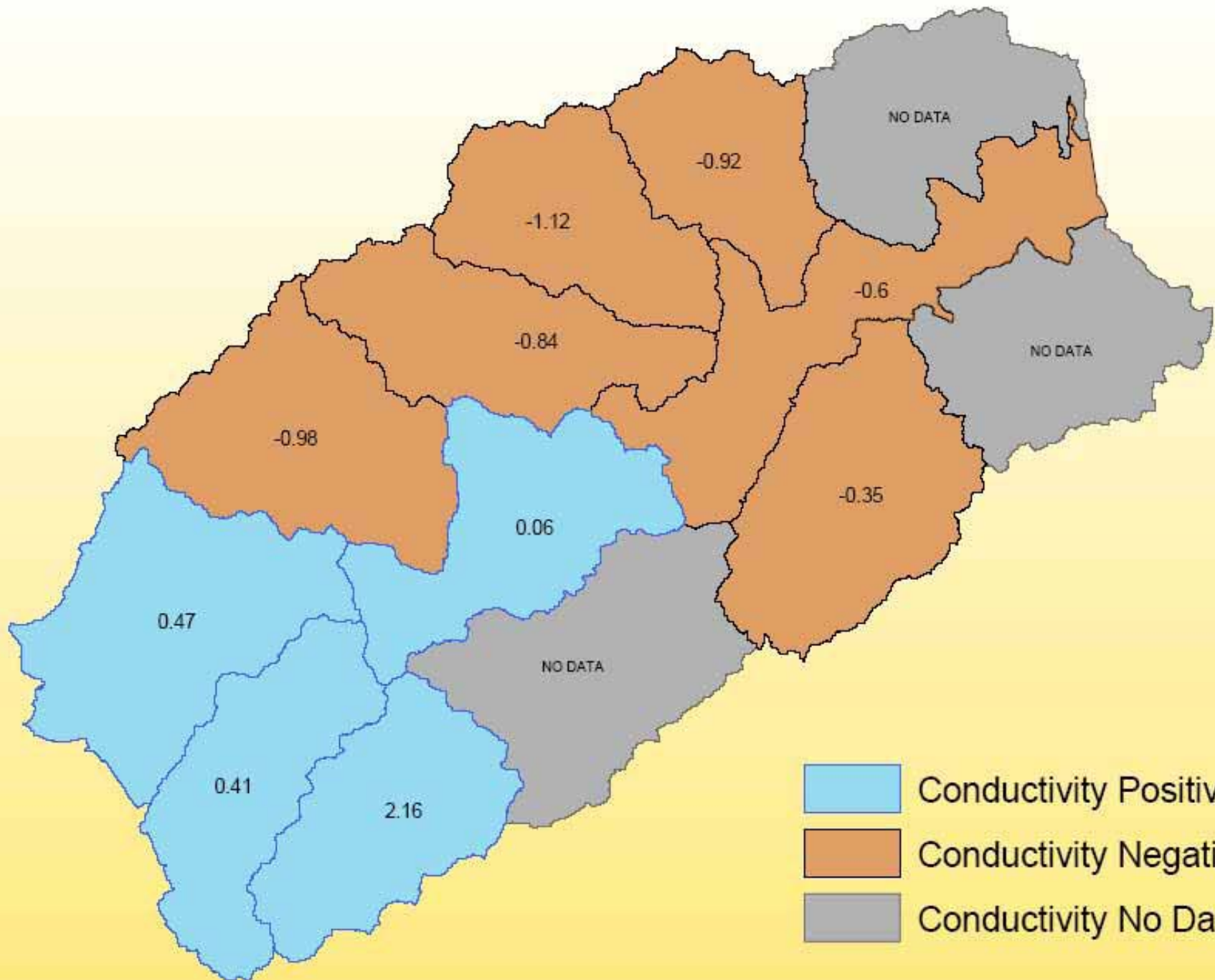
	SubBasin + Road Name	Aluminum	Ammonia	Calcium	Copper	Fecal Coliform	Iron
1	01_Lynn	717.50	0.05	26.25	3.05	627.50	133
2	02_Gibson	1122.50	0.08	20.50	3.72	220.25	255
3	03_Holder	715.00	0.04	27.50	3.75	2300.00	122
4	04_Clayton	580.00	0.06	14.33	2.43	1134.50	180
5	05_Mineral Sp. + Stallings	1115.00	0.17	17.63	3.80	487.50	176
6	07_Chunky Pipe	1043.33	0.11	9.50	3.17	543.50	240
7	08_Fletchers Chapel	4066.67	0.03	8.73	4.07	156.50	413
8	09_Santee	392.50	0.02	10.73	2.80	406.75	83
9	10_Rogers	813.33	0.06	7.97	2.57	93.25	206
10	13_Patterson	2277.50	0.12	13.25	3.15	172.00	317

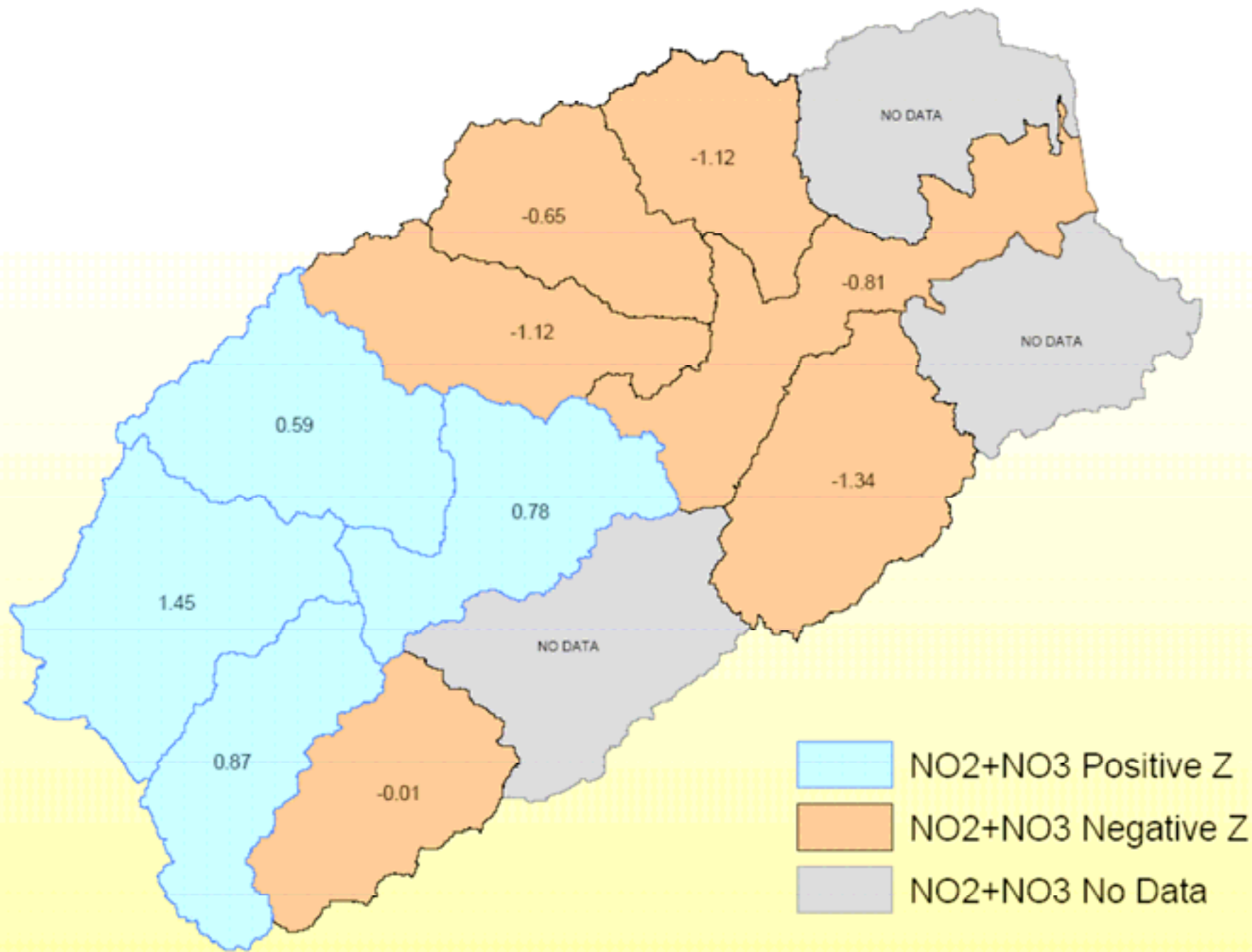
Two way cluster analysis – using means

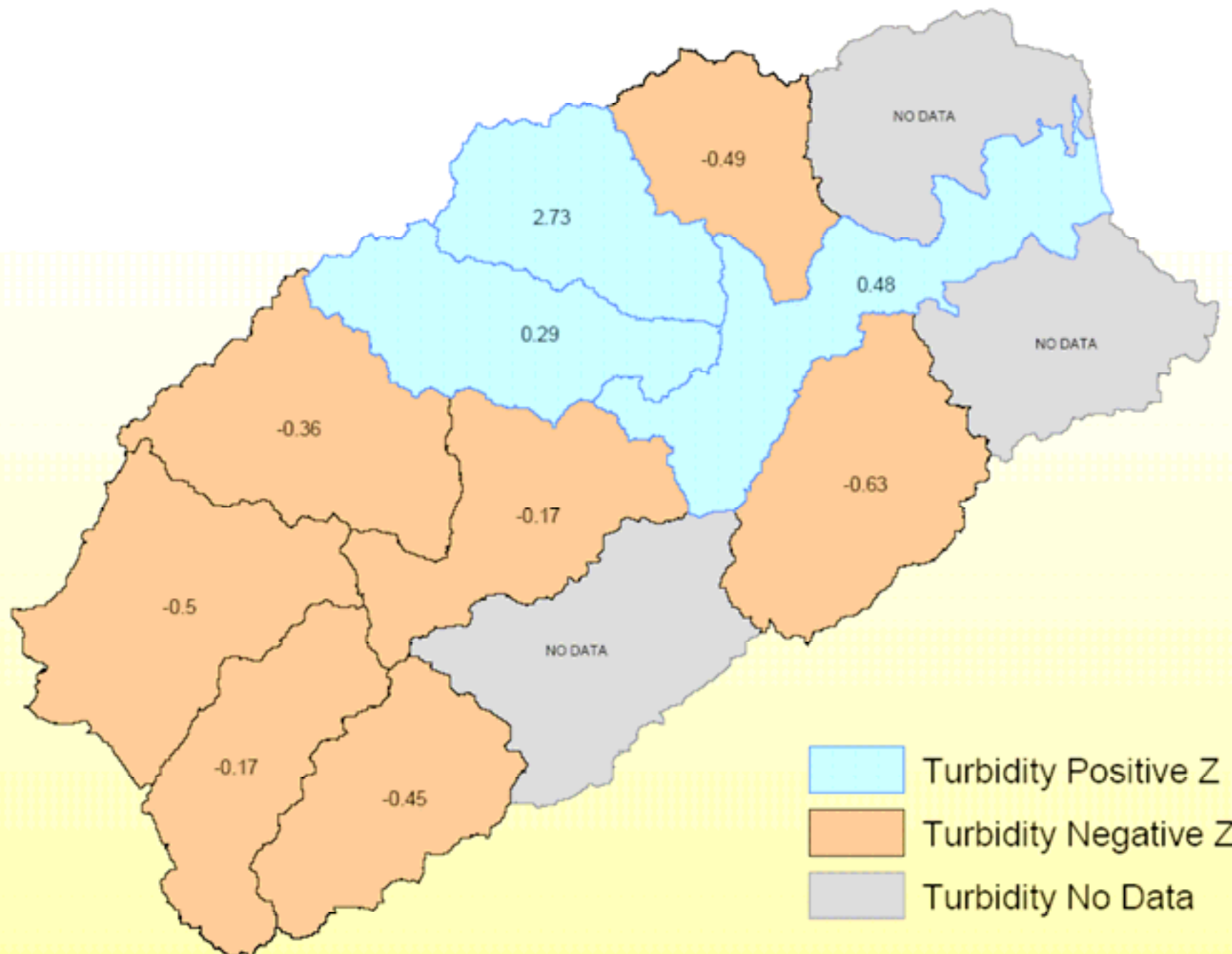


Two way cluster analysis -- using medians



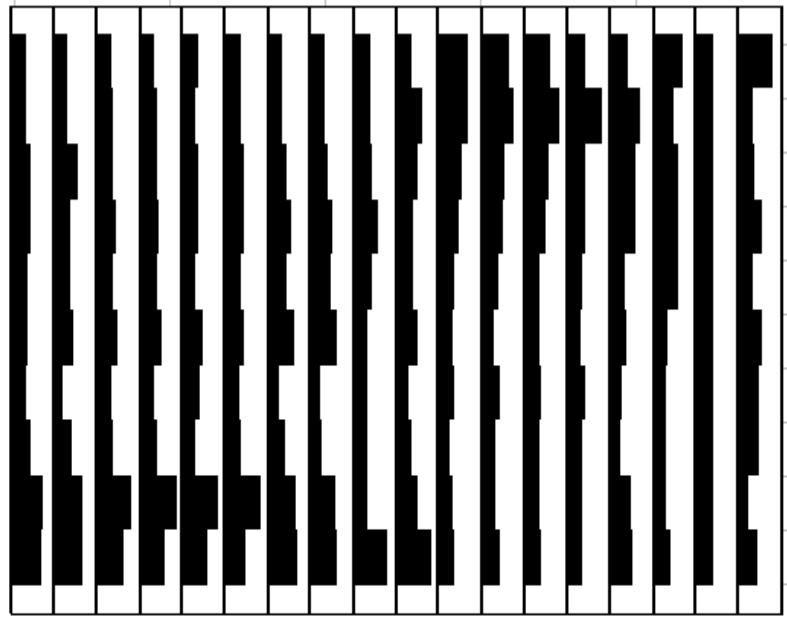






	Bacteria	Yeast	Algal	Crustacean	Clodoceran
1					
2	5 S		34	100	90
3	20 S		100	100	100
4	3.5 S		80	100	90
5	2.8, 4.6 S,N		76, 100	100,100	15,23
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

- 01_Lynn
- 03_Holder
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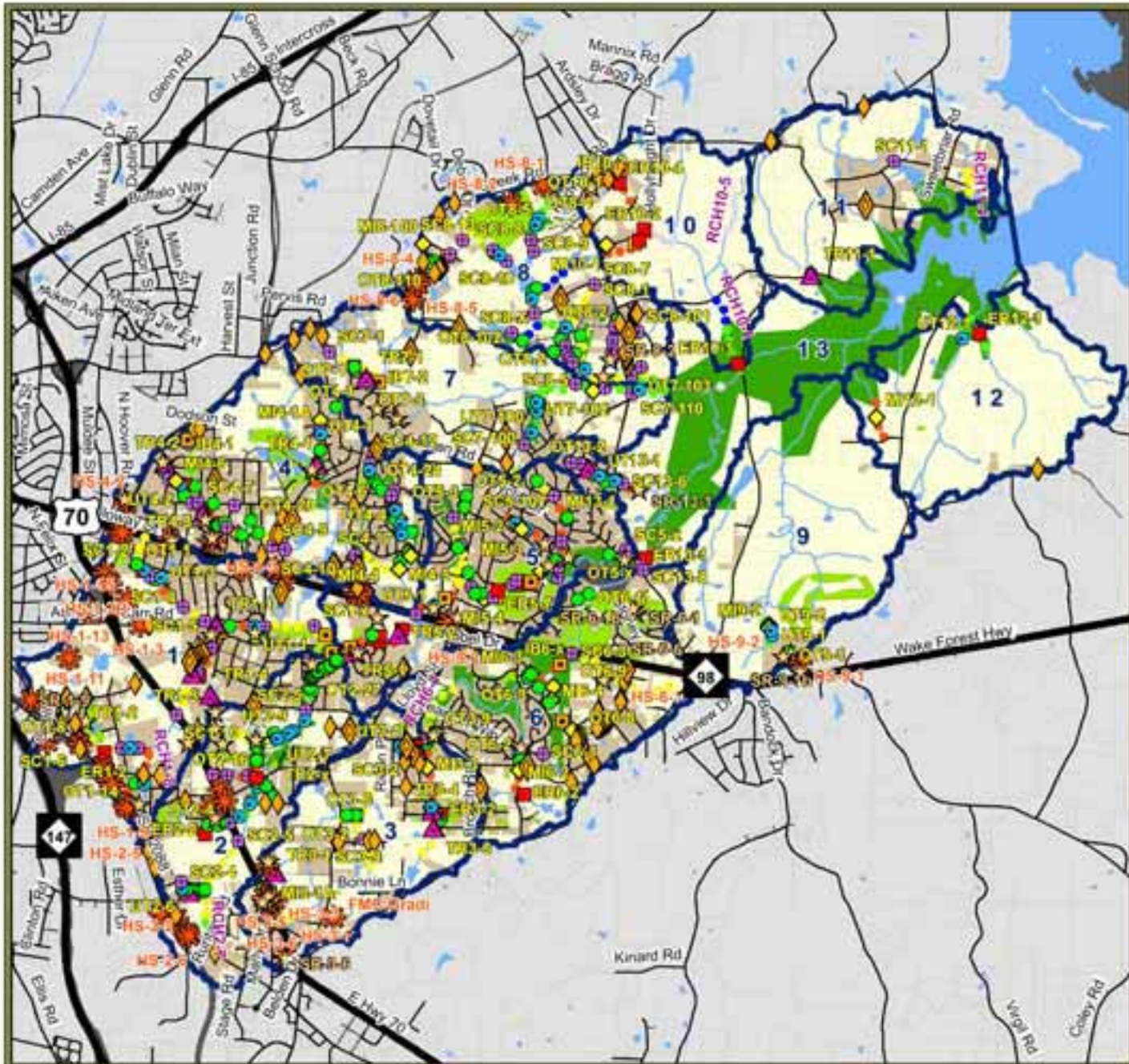
Next Steps

Subwatershed Assessment Committee to help determine subwatershed need for management, such as:

- Restoration
- Stormwater Retrofit
- Land Protection
- Local Ordinance Changes

Prioritizing Restoration Projects

Little Lick Creek Watershed Potential Restoration Projects (Draft, 6/14/2005)



- ☆ Stormwater Retrofit Sites
- ☀️ Hotspot Priorities
- Sand Filters**
 - ◇ Single
 - ◇ Multiple
- Stream Impacts**
 - Erosion
 - Instream Barriers
 - ◇ Man. Interacts
 - ◇ Stream Channeling
 - ◇ Fresh Dumping
 - ◇ Utility Interacts
 - ◇ Outlet
- Total Score**
 - Not Scored
 - Poor
 - Fair
 - Good
 - Excellent
- Parcel Land Use Category**
 - Forest
 - Preserved Natural Area
 - Urban Green Space
 - F-Area/Developable Areas
 - Existing Developed Areas
 - Road Right-of-Way
 - Outside of Watershed
- Major Subwatershed Boundary
- Parcels
- Major Roads
- Streets

N
W — O — E
S

Upper Neuse River Basin Association
Triangle J Council of Governments
Geographic Information Systems
6/14/2005

0 0.5 1 Miles

Restoration Prioritization

Last meeting:

Decided on general approach and relative weightings

Draft Criteria for:

- Stream and buffer restoration
- Stormwater retrofits

Restoration Prioritization

Review Criteria Sheets

Next Steps

1. Begin prioritizing restoration projects
2. Begin recommending management strategies
3. Next Community Meeting—When?

Next Meeting

Wednesday, September 21 at Rollingview
Community Center