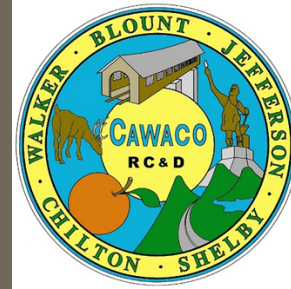


Strategic Habitat Internships



THE UNIVERSITY OF
ALABAMA

Funded by USFWS - 2016





Daniel West
Project
Manager

Sediment Risk Index Internship Recap

Sedimentation Risk Index (SRI) Manual for Stream Crossing Assessment

Modification of the

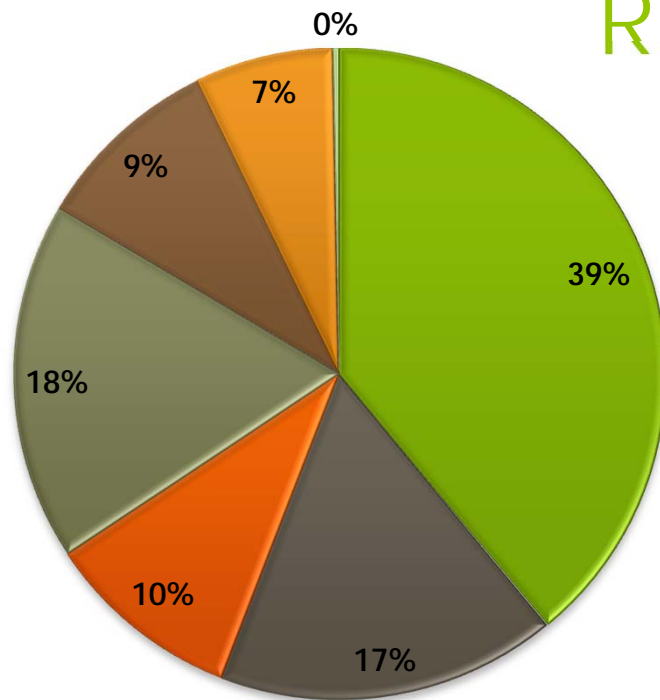
THREE RIVERS RESOURCE CONSERVATION & DEVELOPMENT COUNCIL'S
SRI Manual for Stream Crossing Assessment



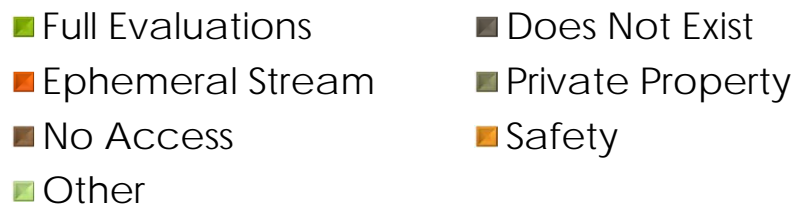
ALABAMA RIVER AND STREAMS NETWORK

- Evaluate the integrity of crossing structure
- Evaluate road condition
- Evaluate stream and flow condition
- Assess bank stability
- Identify fish barriers
- Identify other ecosystem hazards

Sediment Risk Index Internship Recap



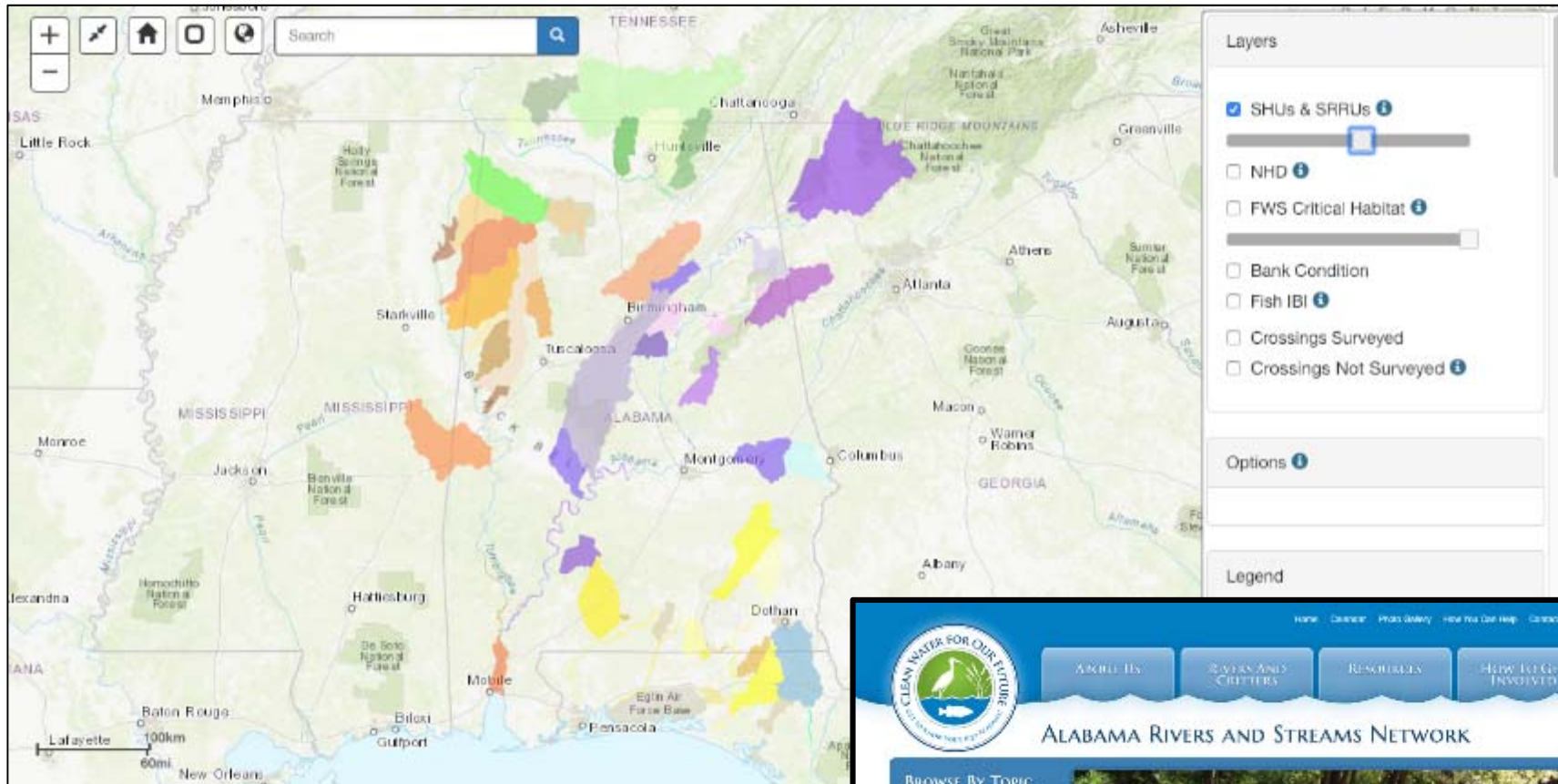
SRI Total Evaluations



- **Total Sites = 2023**
 - Full Evaluations = 804
 - Partial Evaluations = 910
- **Reasons:**
 - Does Not Exist = 348
 - Ephemeral Stream = 202
 - Private Property = 368
 - No Access = 192
 - Safety = 142
 - Other = 6

SHU Mapper

<https://warcapps.usgs.gov/SHU/Map>



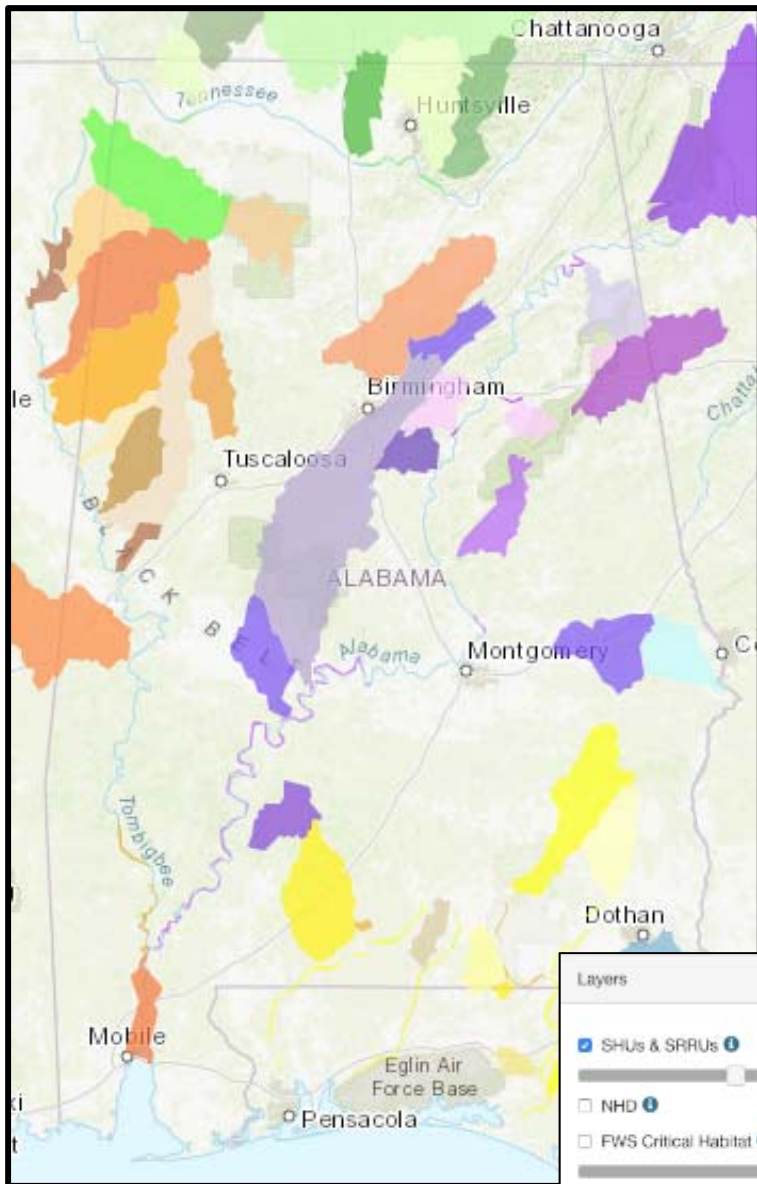
Tip:

alh2o.org

Click interactive map link on homepage

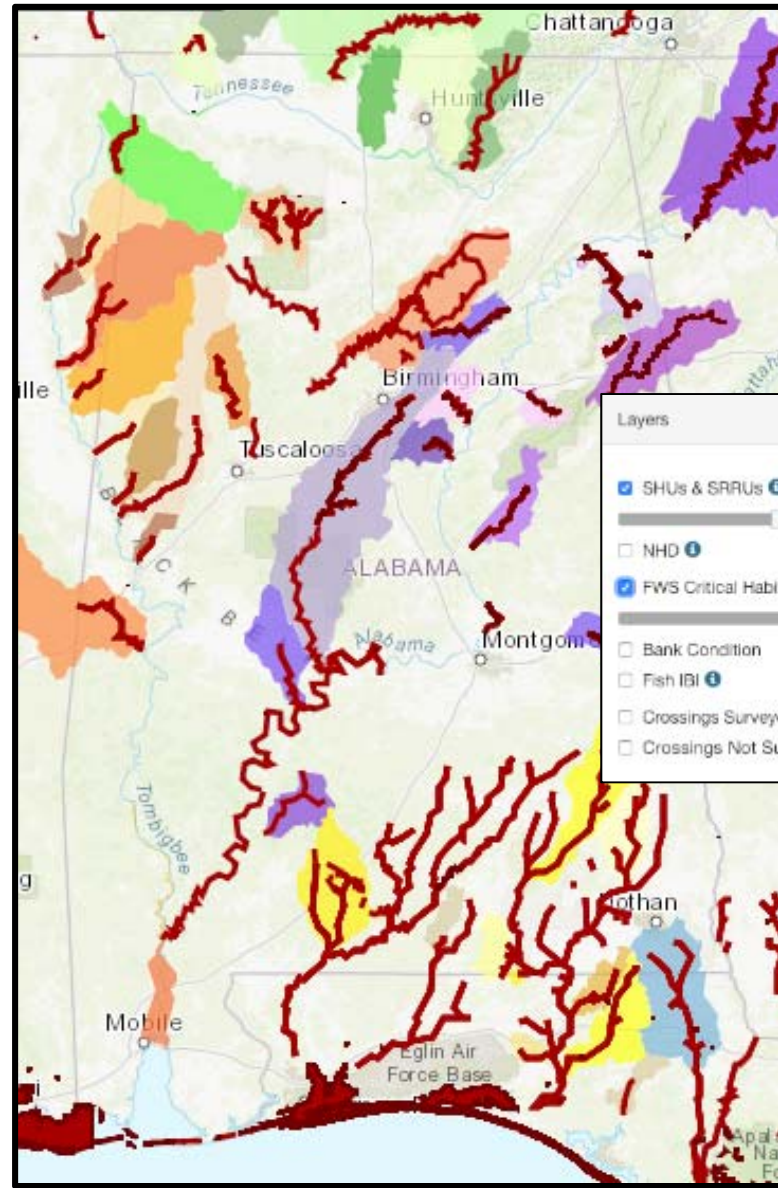
The screenshot shows the homepage of the Alabama Rivers and Streams Network. The page has a blue header with the logo and navigation links: HOME, CONTACT, PRESS RELEASE, HOW TO GET INVOLVED, CONTACT US. Below the header are four buttons: ABOUT US, RIVERS AND CREEKS, RESOURCES, and HOW TO GET INVOLVED. The main content area is titled 'ALABAMA RIVERS AND STREAMS NETWORK'. Below this title is a 'BROWSE BY TOPIC' section with a list of links: Mission Statement, Interactive Map, Strategic Habitat Units, Educational Materials, Success Stories, Why It Matters, and In The News. A red circle highlights the 'Interactive Map' link, and a red arrow points from the tip text to this link. To the right of the 'BROWSE BY TOPIC' section is a photograph of people participating in a river cleanup activity.

SHU Mapper



Layers

- SHUs & SRRUs
- NHD
- FWS Critical Habitat
- Bank Condition
- Fish IBI
- Crossings Surveyed
- Crossings Not Surveyed




Layers

- SHUs & SRRUs
- NHD
- FWS Critical Habitat
- Bank Condition
- Fish IBI
- Crossings Surveyed
- Crossings Not Surveyed

SHU Mapper

Layers

SHUs & SRRUs 



NHD 

FWS Critical Habitat 



Bank Condition

Fish IBI 

Crossings Surveyed

Crossings Not Surveyed 

Chocolocco Creek

Avg_Depth: 3.272373

Avg_Hab: 3.161017

Bank Conditions:

Combined

3.64

Left

Right

4.11

3.16



[High Definition Stream Surveys of
Chocolocco and Cheaha Creeks, AL 2015](#)

[Zoom to](#)

Legend

Bank Condition

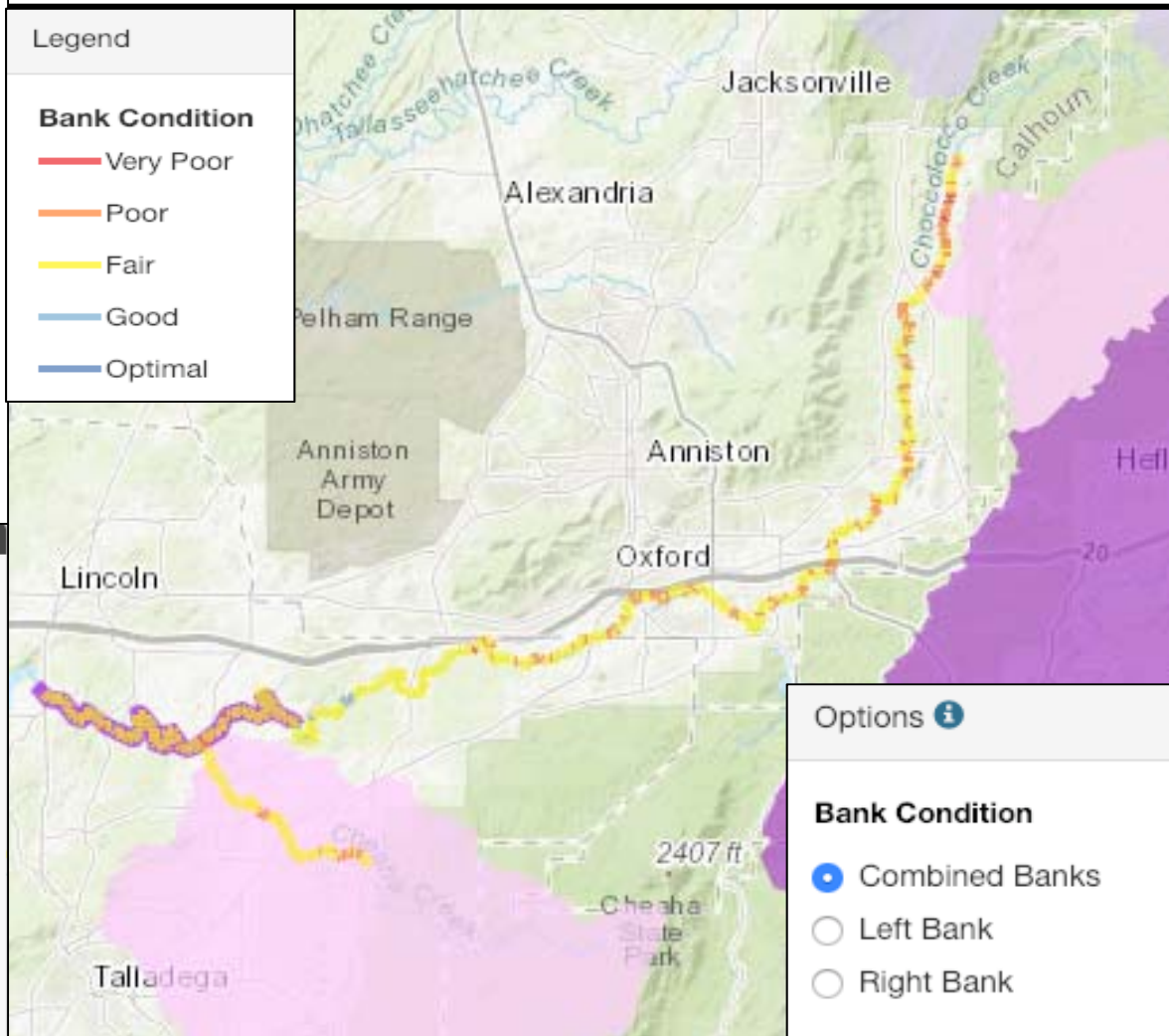
Very Poor

Poor

Fair

Good

Optimal



Options

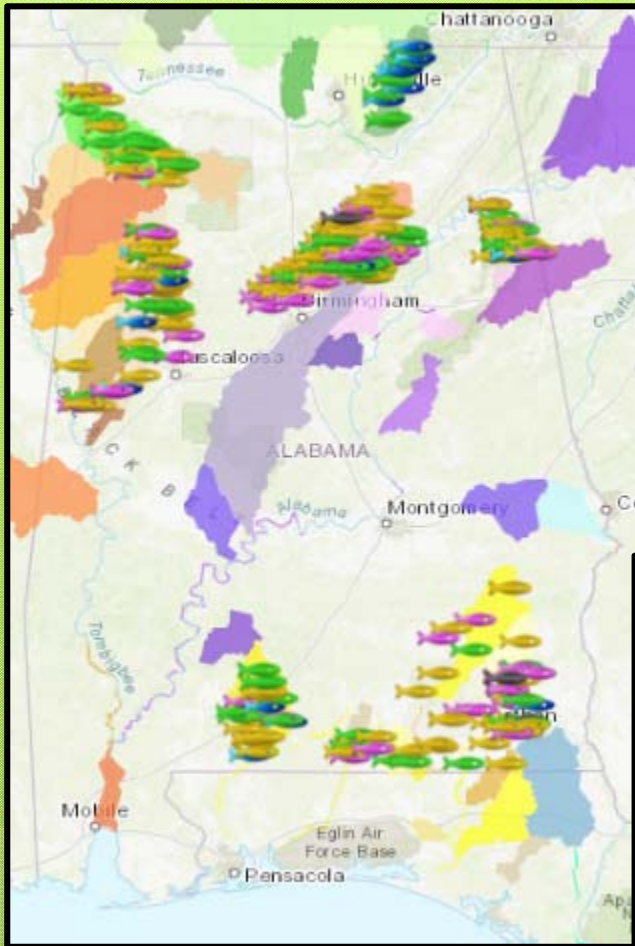
Bank Condition

Combined Banks

Left Bank

Right Bank

SHU Mapper



Legend

Fish IBI

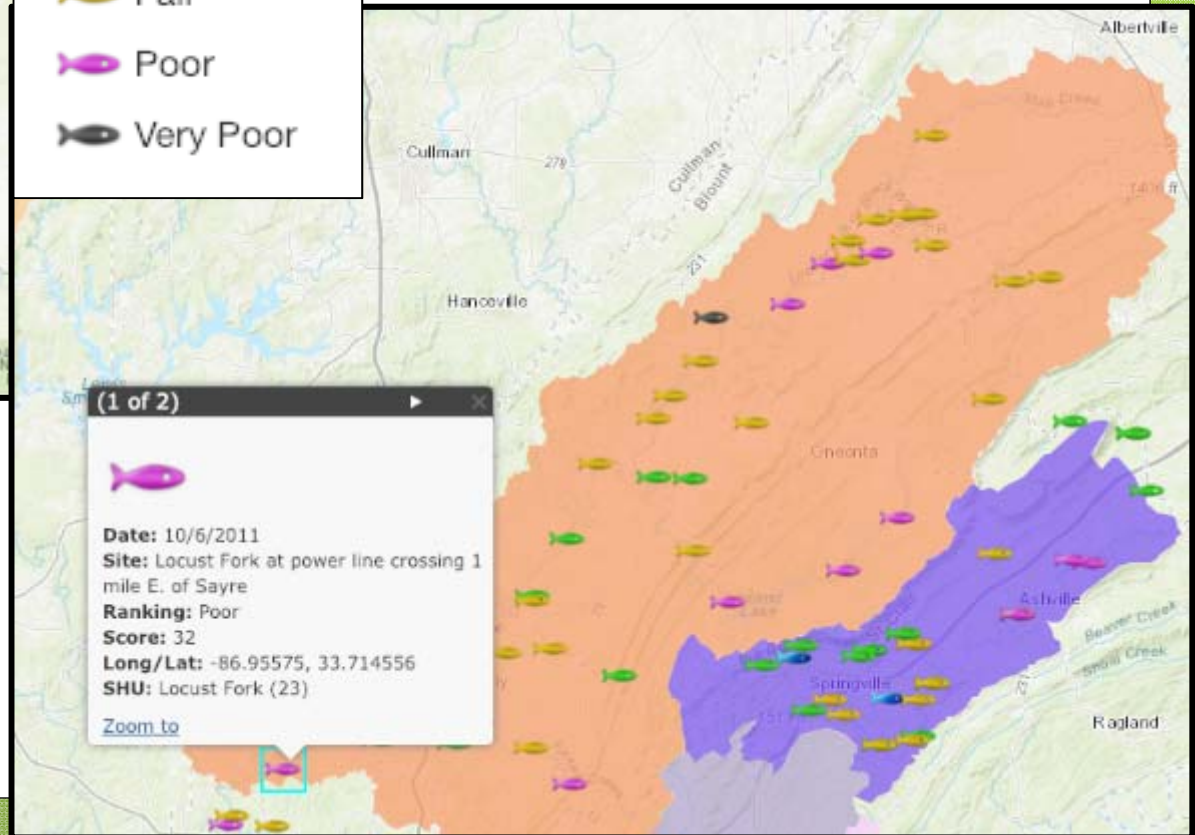
-  Excellent
-  Good
-  Fair
-  Poor
-  Very Poor



Photo by Daniel West



Photo by Daniel West



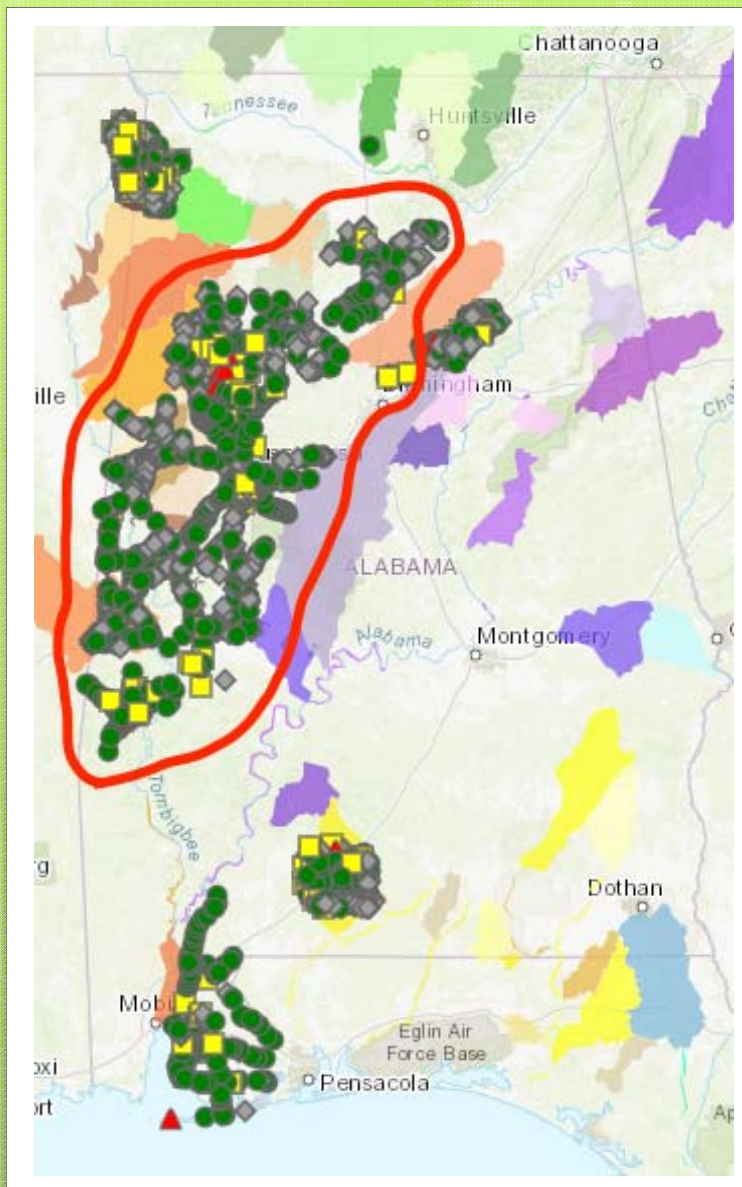
(1 of 2)



Date: 10/6/2011
Site: Locust Fork at power line crossing 1 mile E. of Sayre
Ranking: Poor
Score: 32
Long/Lat: -86.95575, 33.714556
SHU: Locust Fork (23)
[Zoom to](#)

Sediment Risk Index

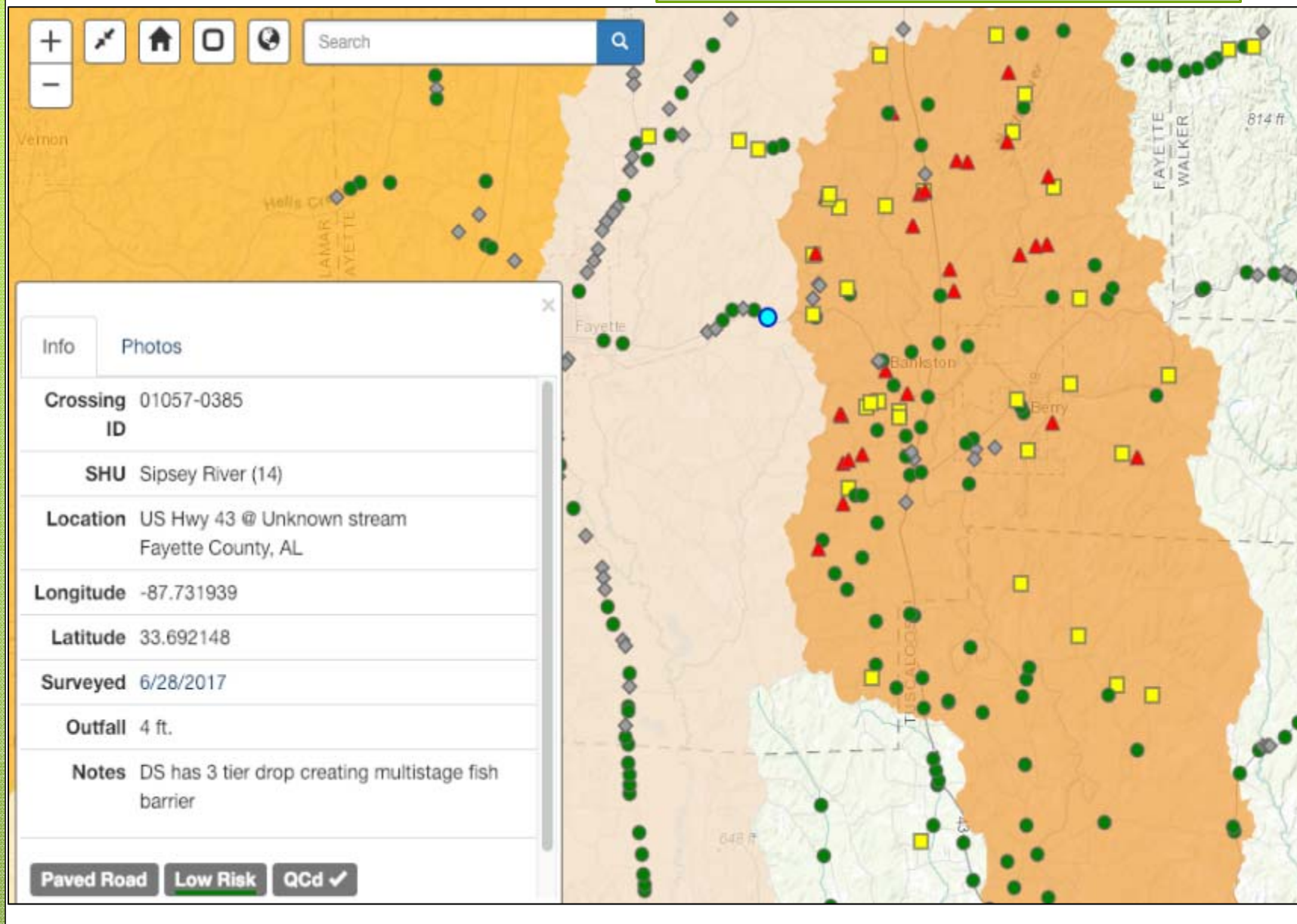
Surveys Completed to Date



- = Low Sediment Risk (Good)
- = Moderate Sediment Risk (Okay)
- ▲ = High Sediment Risk (Bad)
- ◆ = Partial Evaluation (Needs Re-evaluating)

*Available for Public Viewing as of Nov. 30th, 2018

Sediment Risk Index



Sediment Risk Index

Map interface showing a location in Fayette County, AL. The map includes a search bar and navigation controls. A red arrow points from the 'Surveyed' field in the info panel to the 'Surveyed' field in the data table.

Info Photos

Crossing ID 01057-0385

SHU Sipsey River (14)

Location US Hwy 43 @ Unknown stream
Fayette County, AL

Longitude -87.731939

Latitude 33.692148

Surveyed 6/28/2017

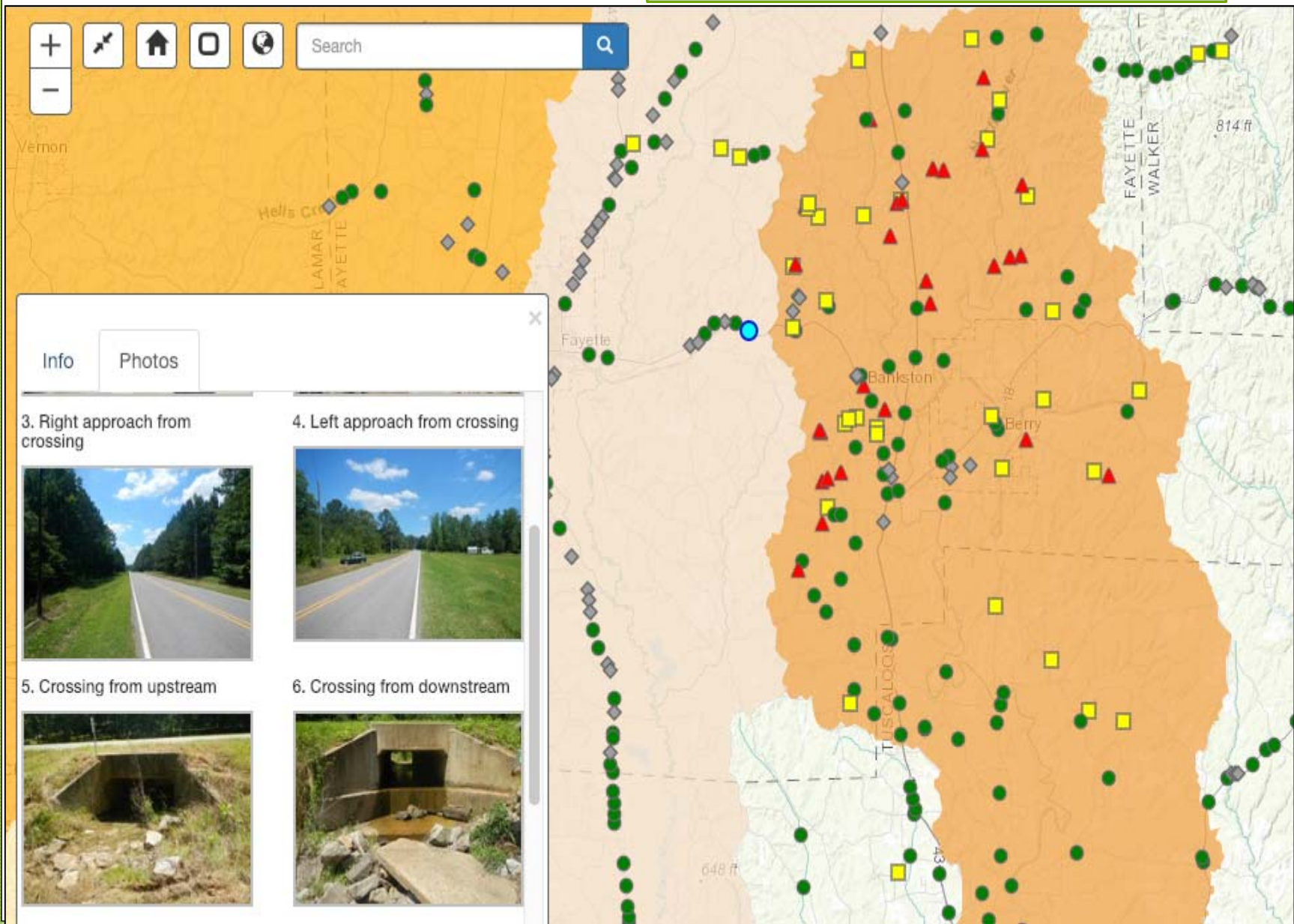
Outfall 4 ft.

Notes DS has 3 tier drop creating multistage fish barrier

Paved Road Low Risk QCd ✓

SHU Name:	Sipsey River	SHU #:	14	Visible Threats	
Crossing ID:	01057-0385	BBN:		Livestock access	<input type="checkbox"/>
Road:	US Hwy 43	Stream:		Footing banks	<input checked="" type="checkbox"/>
Date:	6/28/2017	Time: Start	1427	End	1436
Surveyor(s):	D.West M.Forland	Lowland		Fish barriers	<input checked="" type="checkbox"/>
State:	AL	County:	Fayette	Operator of GPS:	M.Forland
Latitude (DD):	33.692148	Camera:	M.Forland	Road material in stream	<input type="checkbox"/>
Longitude (DD):	-87.731939	Notebook:	D.West	ATV Access	<input checked="" type="checkbox"/>
Road Type:	Paved	Public		No riparian cover	<input type="checkbox"/>
Qualitative Sed Risk Level:	Low			Others:	
Full Survey Performed?	Yes	Restoration Project Possibility:	Maybe		
Other Comments:					
Stream Crossing Assessment					
WATERWAY					Score
1. Upstream channel morphology	A,B,C,E,Wetland				5
2. Downstream channel morphology	D,F,G,Ponded				1
3. Downstream channel/bank alteration	Minor or Partial				3
CROSSING STRUCTURE		Crossing type:	Culvert	Number of culverts:	1
		Culvert type:	Trough box	Bar Signs Present:	<input type="checkbox"/>
		Structure Materials:	Reinforced	Other:	
		Dimensions	Length/Span (ft): 6.00	Diameter/Width (ft): 45.00	Culvert outfall drop (ft): 4.00
		4. Upstream culvert skew angle (worst)	< 5°		
		5. Crossing fill condition (dominant)	Good-Vegetated		
		6. Crossing inlet/outlet condition	Scouring		
		Comments:			
ROAD APPROACHES I Right = right road approach when facing downstream					
Dimensions (right)	Length (m):	Width (ft):	Road prism fill (m):	Slope (%):	
Potential eroded volume (right): Length x Width x Road prism fill x 16.3 =					
Dimensions (left)	Length (m):	Width (ft):	Road prism fill (m):	Slope (%):	
Potential eroded volume (left): Length x Width x Road prism fill x 16.3 =					
7. Potential eroded volume (mean)					
8. Soil type: K-factor:					
9. Road approach slope (mean %)					
10. Road approach surface material					
ROAD APPROACHES II Right = right road approach when facing downstream					
DOWNSTREAM					
Left outlet	Vegetated	1	Left ditch	Vegetated	1
Right outlet	Vegetated	1	Right ditch	Vegetated	1
UPSTREAM					
Left outlet	Vegetated	1	Left ditch	Vegetated	1
Right outlet	Vegetated	1	Right ditch	Vegetated	1
11. Outlet Total			12. Ditch Total		
5			5		
SEDIMENTATION RISK INDEX (SRI)					
Narrative Risk Rank		Low risk	Moderate risk	High risk	Low
SRI Score		46 - 60	37 - 45	12 - 36	52
NOTES DS has 3 tier drop creating multistage fish barrier					

Sediment Risk Index



Sediment Risk Index

The screenshot shows a web-based map interface for a Sediment Risk Index. At the top, there is a search bar and navigation icons (home, location, zoom in, zoom out, full screen, refresh). The map displays a river with several markers: green circles, yellow squares, a red triangle, and grey diamonds. A large photo of a concrete crossing structure is shown, along with smaller photos of the approaches and the crossing from different perspectives.

3. Right approach from crossing

4. Left approach from crossing

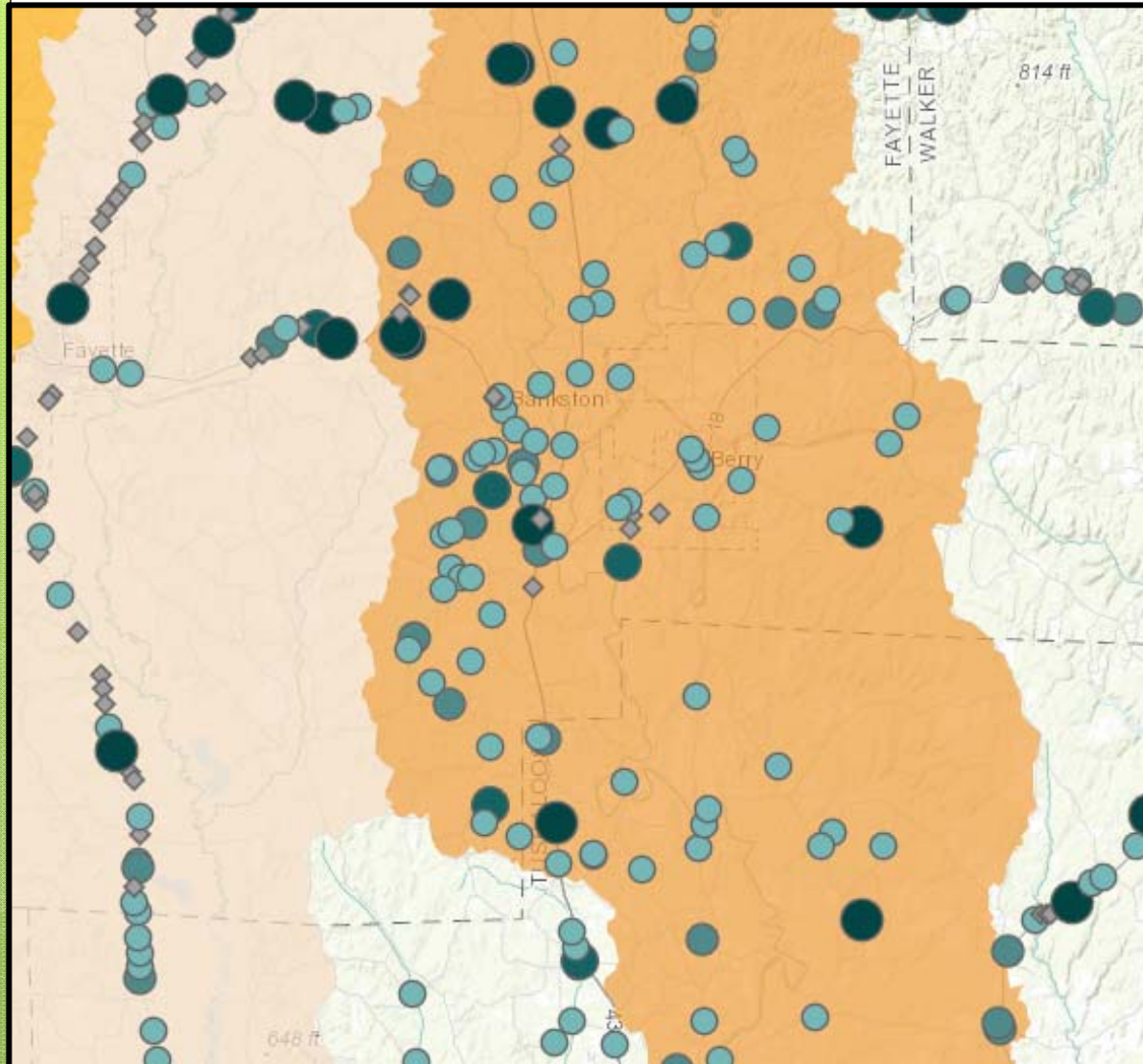
5. Crossing from upstream

6. Crossing from downstream

6. Crossing structure from downstream

Images courtesy of Alabama Streams and Rivers Network.
[Download full size](#)

Sediment Risk Index



- Crossings Surveyed
- Crossings Not Surveyed [i](#)

Options [i](#)

Crossing Surveys

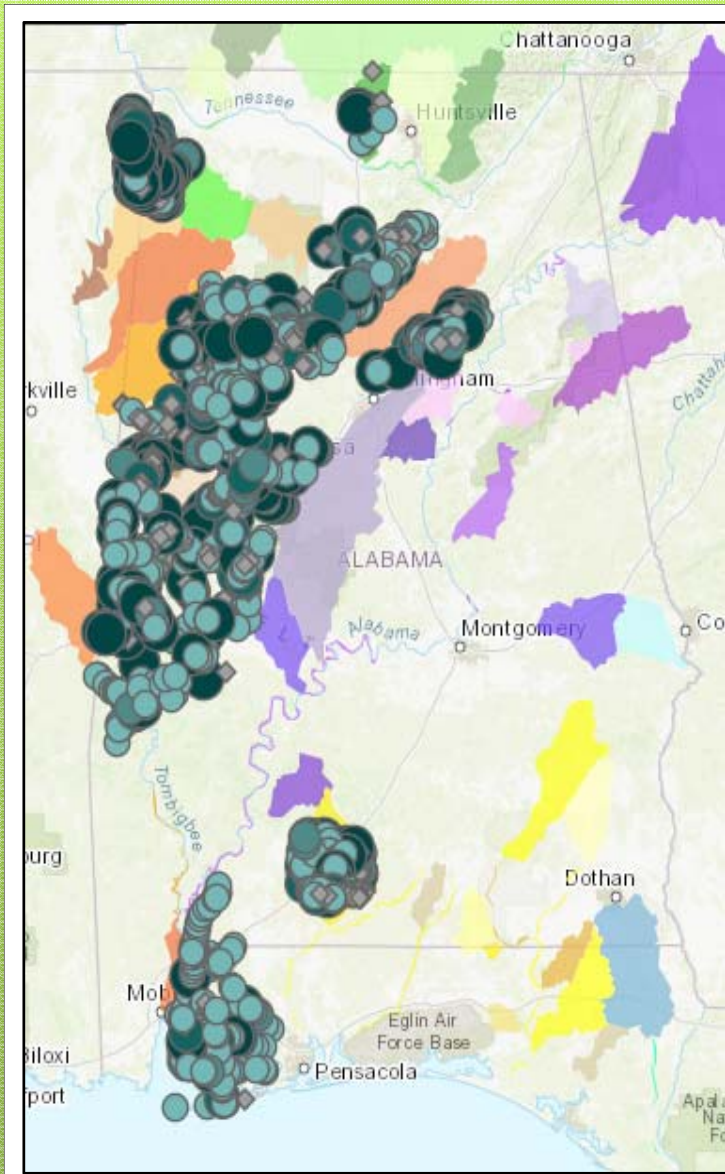
- Sediment Risk Index
- Culvert Outfall
- Unpaved Only

Legend

Crossings

- No outfall
- 1 in. - 6 in.
- 6 in. - 1 ft.
- 1 ft. +
- Full Survey Not Performed

Sediment Risk Index



Crossings

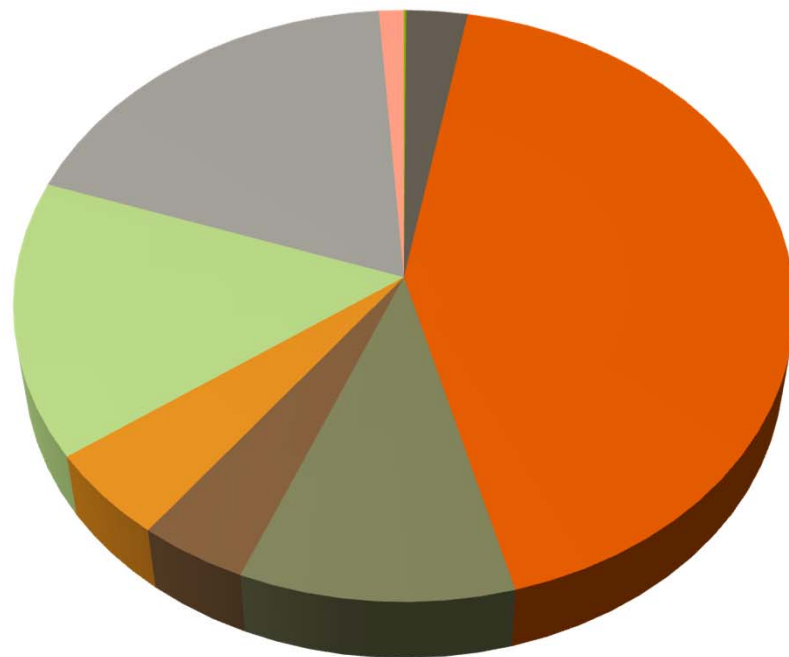
- No outfall
- 1 in. - 6 in.
- 6 in. - 1 ft.
- 1 ft. +
- ◆ Full Survey Not Performed



*Available for Public Viewing as of
Nov. 30th, 2018

Sediment Risk Index Internship

Strategic Habitat Unit Evaluations = 969



■ Cahaba River = 1

■ Locust Fork = 416

■ Luxapalila Creek = 40

■ Sipsey River = 146

■ Trussels Creek = 11

■ Coalfire Creek = 27

■ Lubbug Creek = 101

■ North River = 47

■ Sucarnoochee River = 180

Locust Fork SHU



Photo by Mark Bailey, Conservation Southeast

The Flattened Musk Turtle (*Sternotherus depressus*), a federally threatened species, is endemic to the Black Warrior basin above the Fall Line.

The Black Warrior waterdog (*Necturus alabamensis*), a candidate species for listing under the Endangered Species Act, is endemic to the Black Warrior basin above the Fall Line.



Photo by Mark Bailey, Conservation Southeast



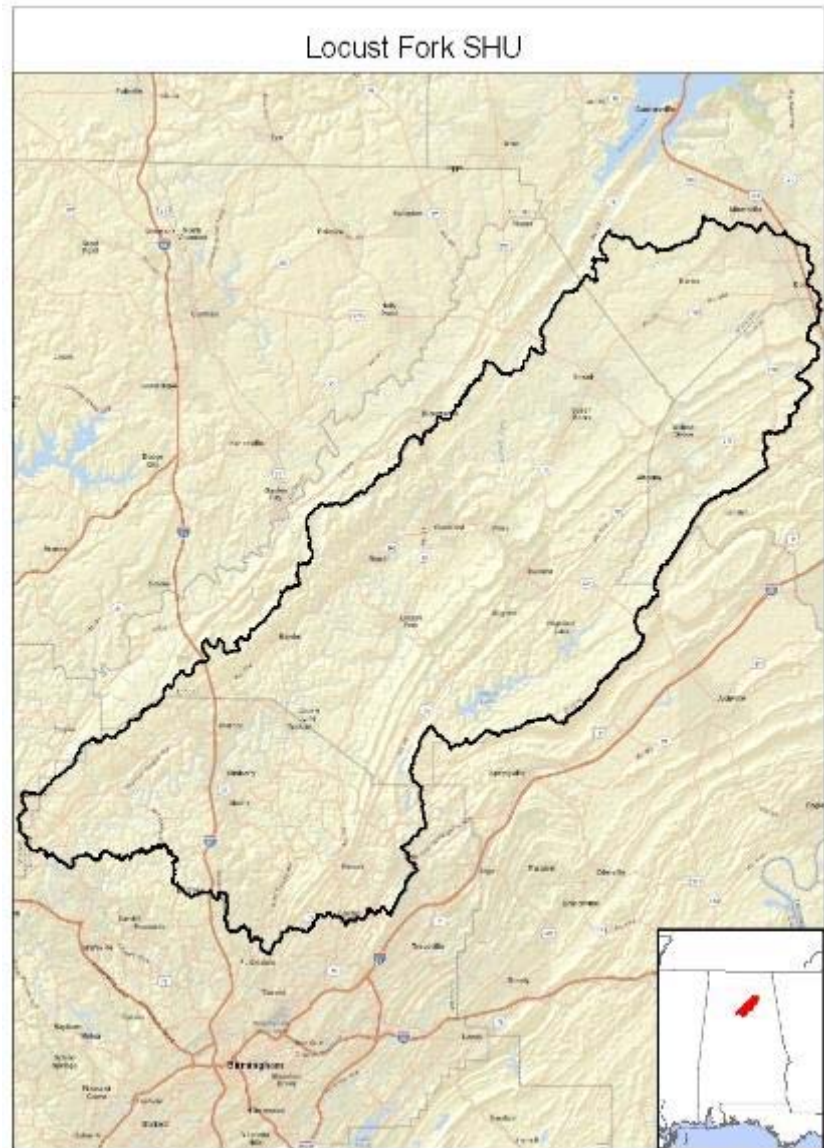
Photo by Nelson Brooke, Black Warrior Riverkeeper

The watercress darter (*Etheostoma nuchale*), another federally endangered species, lives in five springs in Jefferson County, Alabama, and nowhere else in the world.

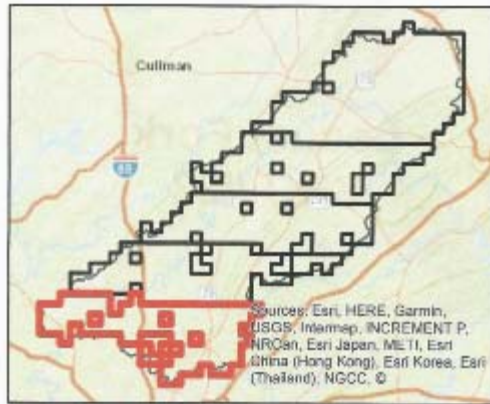
The vermilion darter (*Etheostoma chermocki*), a federally endangered species, lives in Turkey Creek in Jefferson County, Alabama, and nowhere else in the world.



Photo by Nelson Brooke, Black Warrior Riverkeeper



Locust Fork SHU



Locust Fork Strategic Habitat Unit #23 Map Section 1 Map Book Grids 1 - 100

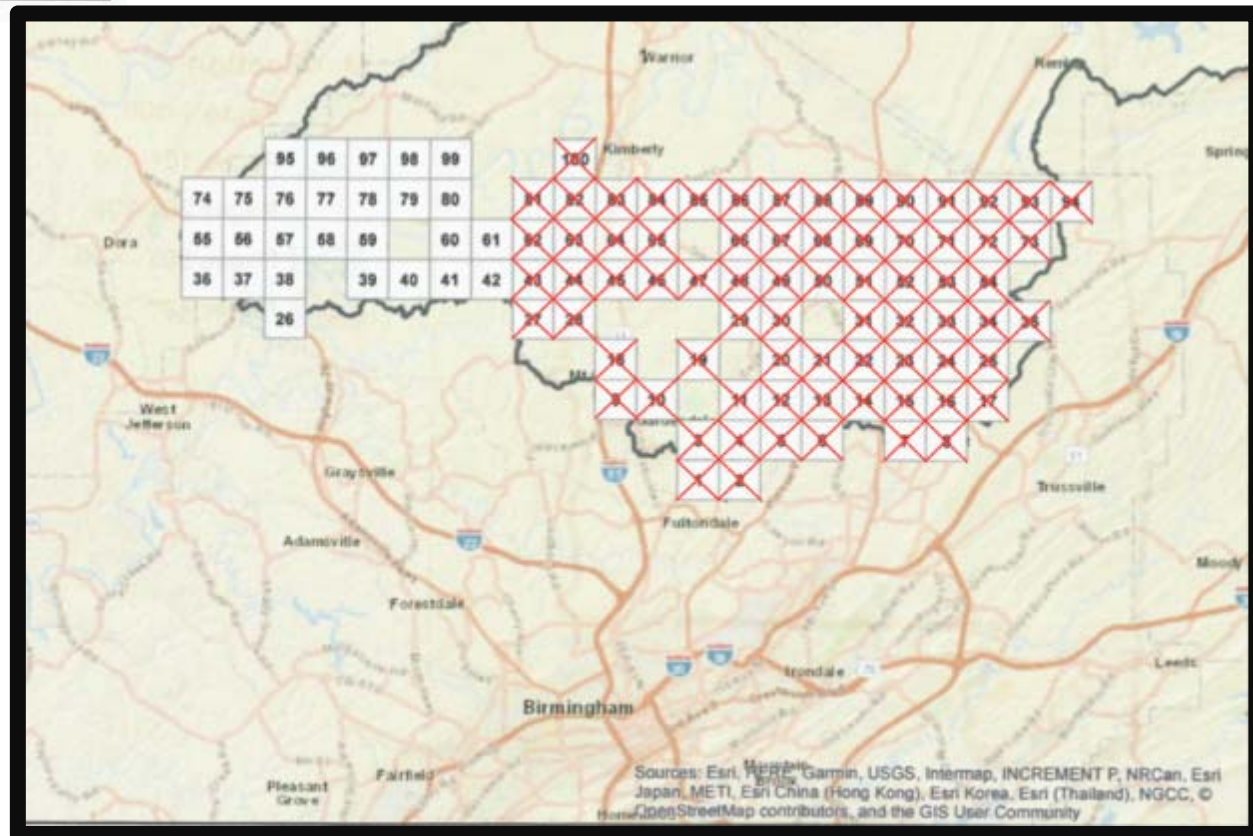
Total Crossings:
547

Total Surveyed:
413

Total Grids:
100

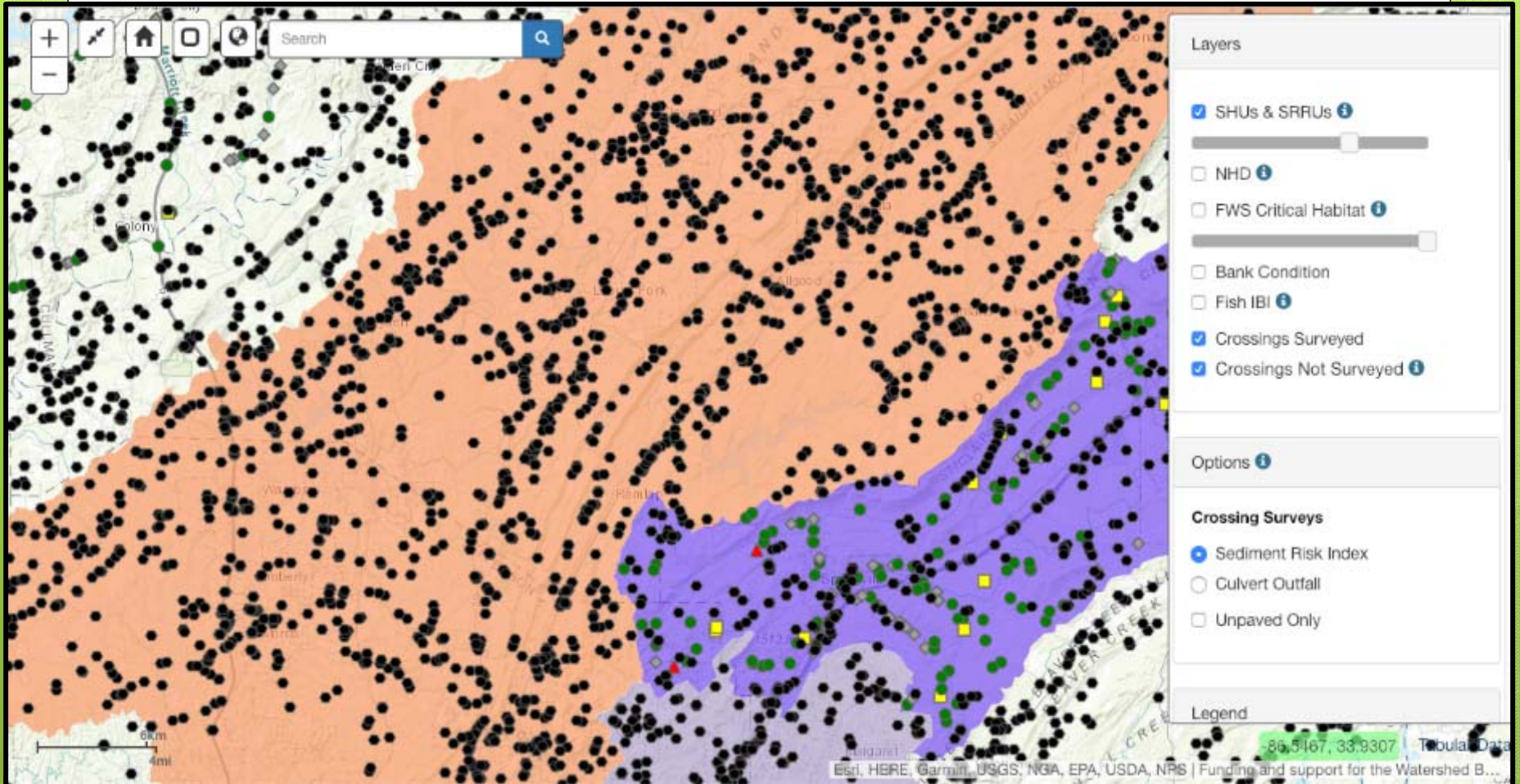
Total Surveyed:
73

*total surveyed as of
Nov. 30th, 2018



Locust Fork SHU

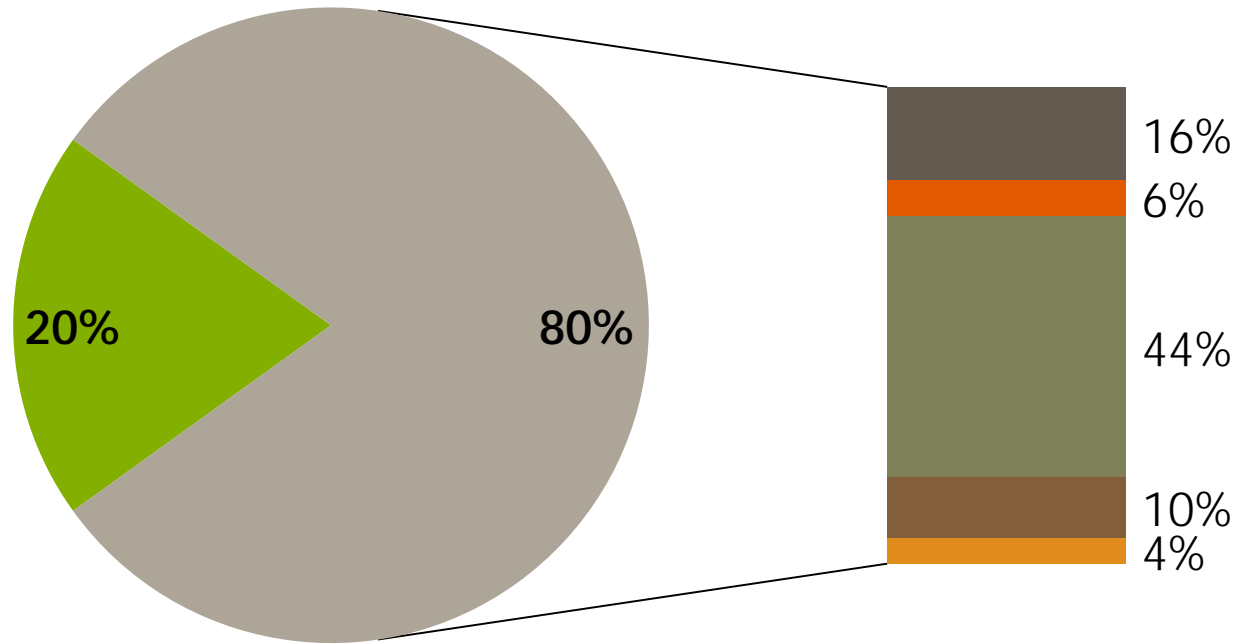
Oh the places we shall go...



Crossings listed

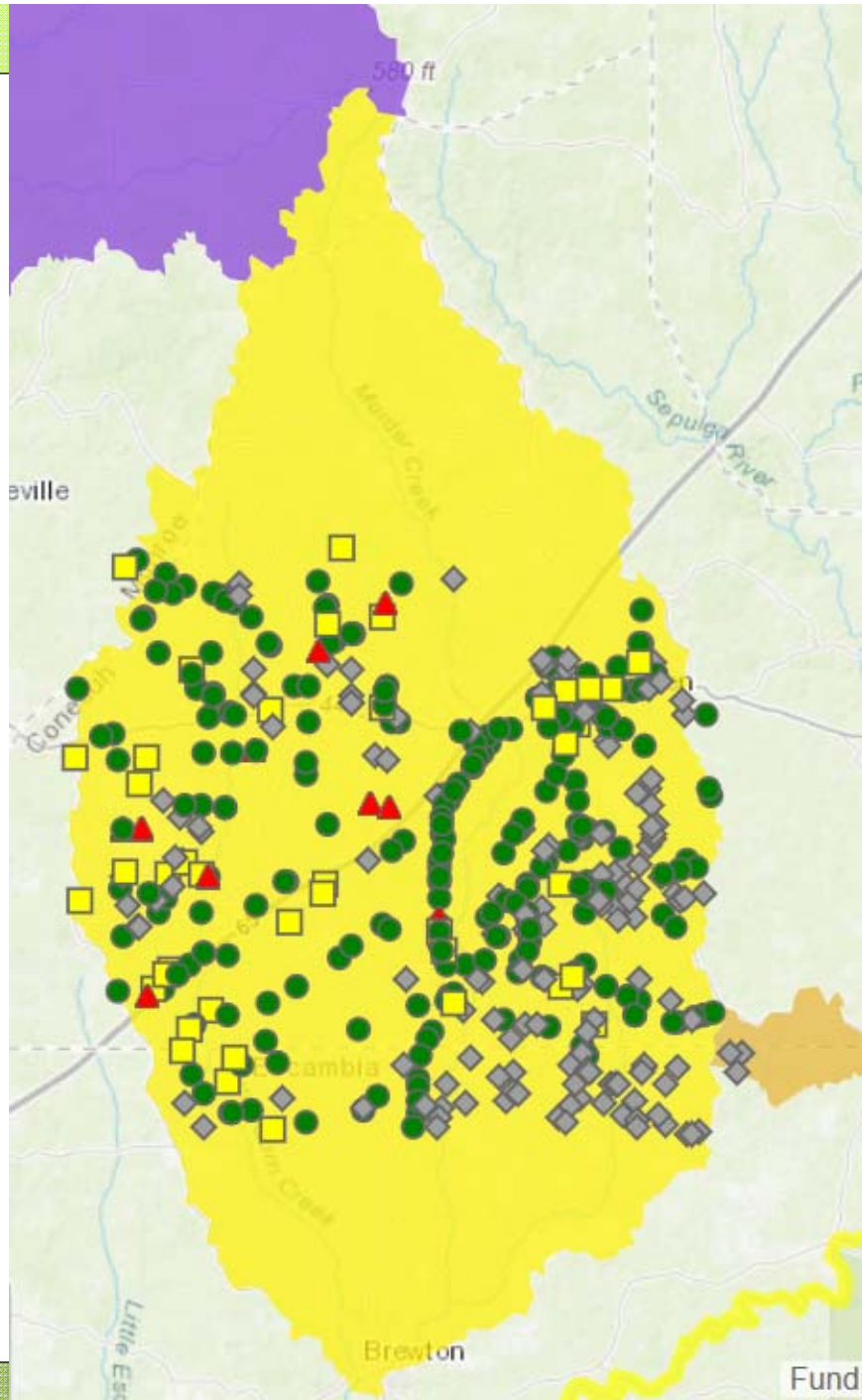
Locust Fork

Map Section 1
SRI Total Evaluations



- Full Evaluations
- Does Not Exist
- Ephemeral Stream
- Private Property
- No Access
- Safety

Murder Creek



Murder Creek Crossing Assessment

Murder Creek Crossing Assessment

Crossing ID	County	Crossing Type	Public Road	Threat/Impairment Type					
				Livestock Access	Eroding Stream Banks	Barrier to Fish Movement	Road Material in Stream	ATV Access	Lack of Riparian Cover
01035-0619	Conecuh	Culvert	Yes	No	No	No	Yes	No	No
01035-0629	Conecuh	Culvert	No	No	Yes	No	Yes	No	No
01035-0648	Conecuh	Bridge	Yes	No	Yes	No	Yes	No	No
01035-0649	Conecuh	Culvert	Yes	No	Yes	No	Yes	No	No
01035-0954	Conecuh	Bridge	Yes	No	Yes	No	Yes	No	No
01035-0061	Conecuh	Culvert	Yes	No	No	No	Yes	No	No
01035-0660	Conecuh	Culvert	Yes	No	No	Yes	Yes	No	No
01035-1087	Conecuh	Culvert	Yes	No	Yes	No	No	No	No
01035-0211	Conecuh	Culvert	Yes	Yes	No	No	No	No	Yes
01035-1063	Conecuh	Bridge	Yes	No	No	No	No	No	No
01035-0631	Conecuh	Bridge	Yes	No	No	No	Yes	No	No
01035-0943	Conecuh	Culvert	Yes	No	No	No	Yes	No	No
01035-0759	Conecuh	Culvert	Yes	No	No	Yes	Yes	No	No
01053-0500	Escambia	Bridge	Yes	No	No	No	Yes	No	No
01035-1088	Conecuh	Culvert	Yes	No	No	Yes	No	No	No
01035-0416	Conecuh	Bridge	Yes	No	Yes	No	No	No	No
01035-0303	Conecuh	Culvert	Yes	No	Yes	No	Yes	No	No

www.cawaco.org

FORMS



Alabama Stream Impairment Report Form

Help us identify problem areas that impact Alabama's water quality.

Your Info *

First

Phone *

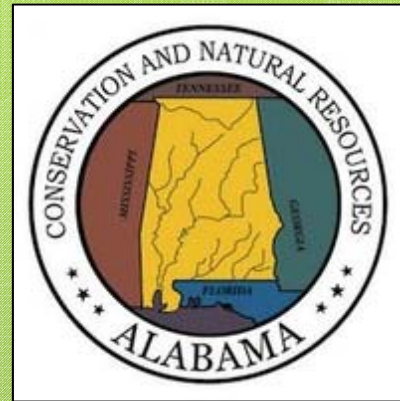
Last

Email *

Don't worry- we won't spam you

Special Statement

This form exists only to assist with our efforts to improve, through cooperative action, Alabama water quality and to improve wildlife habitat. ***In no instance will information provided through the Stream Impairment Form be used to assist any party in litigation against any other party.*** Please do not trespass on private property. Cawaco RC&D reserves the right to share information with project partners, and by filling out this form you consent to allowing access to this infor-



THANK YOU



Photo by Daniel West