

Boston Mountain Float Map

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GEOS-2943

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Introduction

The Boston Mountain Float Map is a useful tool for paddlers of all skill levels. This map will allow the viewer to make an informed decision as to what stretch of river in the Arkansas Ozarks suits them best.



Project Overview

To Create a map that displays ...

Nine floats throughout the Arkansas Ozarks

Access to float trips are represented by different kinds of push pins

Top tier access is maintained by a state or federal organization –



Middle tier access is not maintained and usually comes off a county road –



Camping access is at a state park which is usually well maintained –



City parks provide recreation as well as good public access to rivers –





Project Overview

Rock types and land use such as National Forest Service land were added to provide the viewer with a better understanding of the topography surrounding the streams as well as how the surrounding land is being used.

This information could help them decide which float suits them best.

Project Overview

 - National Forest Service land

Rock Types

 - Alluvial/Terrace Deposits

 - Consolidated Rock: Fractured-SS, Limestone, Shale (Secondary Porosity)

 - Consolidated Rock: Karst

 - Combination of Karst and Limestone/Shale

 - Water Bodies

Difficulty level/length of each float - indicated by the color of the float

Red – Difficult/Long

Dark Orange – Medium/Intermediate

Yellow – Short/Easy

Community

- Paddlers of all skill levels wishing to explore new waters will find this map useful.
- Through communicating what floats are best for individuals coming from a wide array of backgrounds, this map will provide paddlers with guidance for their next recreational experience.

Curriculum

Intro to GIS Learning Objectives

Raster data, map scales, querying, selecting features, creating layers from selected features, clipping, layout view, adding legend, scale bar, title, north arrow, map design, matching coordinate systems, converting to Web Map, and creating point data

Not in the curriculum: KMZ to shapefile tool

Methodology

Designated counties containing streams of interest were used to create a selection layer, this selection layer allowed me to create a series of clips from shapefiles (stream order, forest service land, and geology) that are within the study area.

Once the features of the map were in place, I started working on the access points as well as the floats themselves.

The access points and floats were transferred over to ArcGIS Pro from Google Earth. This was accomplished by using the “KMZ to Shapefile tool”

Once all KMZ files were converted to shapefiles, I worked on making the map visually appealing.

Timeline

3/15/21 - Project proposal noted and returned by Paul Lowrey

3/28/21 – Data collection

3/29/21 – Data collection and querying

3/30/21 – Converted KMZ to Shapefiles, selection created and created clips

4/2/21 – Finished creating clips and worked on improving visuals

4/20/21 – Changed push pins that mark access

Timeline

4/21/21 – Made individual larger scale maps in layout view that are easier to read

5/4/21 – Finished map in ArcGIS Pro then created a Web Map from product

Outside Data Collection

- Arkansas GIS Office and Google Earth
- All shapefiles were gathered from the Arkansas GIS Office. Zipped files were emailed then saved to a file. The data was then transferred from the file to ArcGIS Pro.
- Once the map was created, a Web Map was created from it.

Personal Data Collection

“Data collection” included visiting access points, floating each stretch of stream, and using coordinates obtained with Google Earth to locate each stretch of stream and the access indicated.

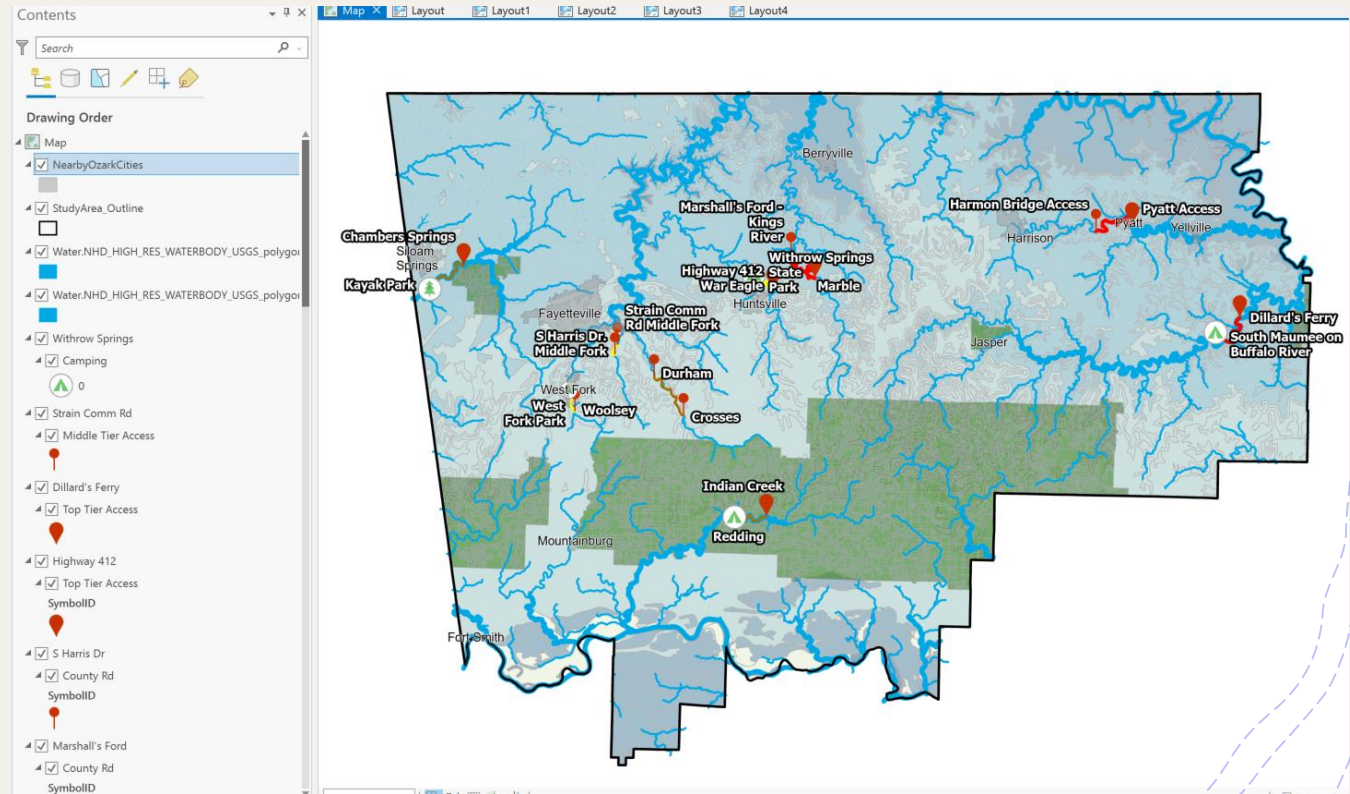
Project Results

I created a full view map of the study area without considering that the scale of the map might be a problem.

Once I realized that the map would be difficult to read due to how small the features were, I created 5 larger scale maps in layout view to make the floats and accesses easier to read.

Project Results

Full View

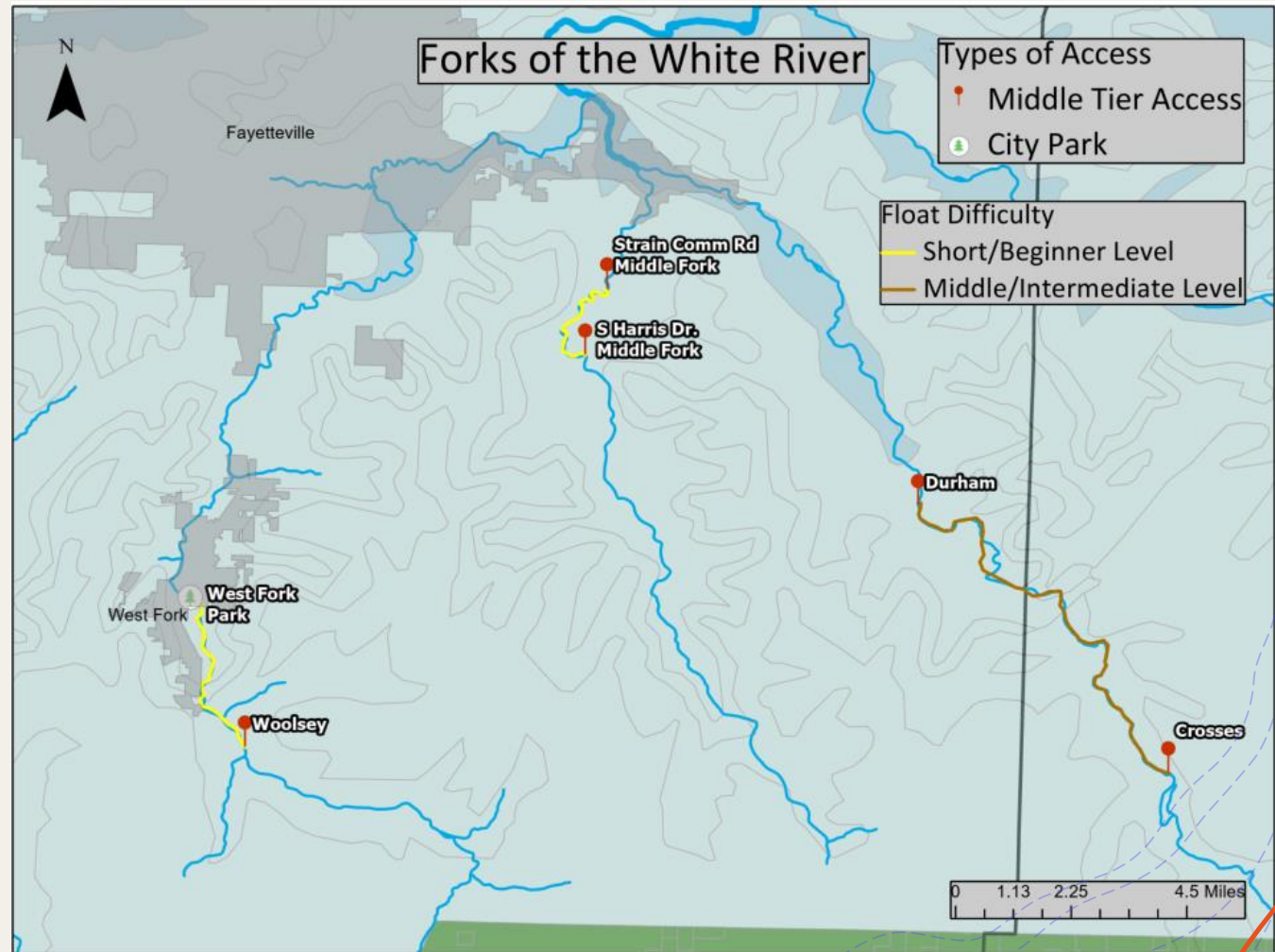


Project Results

West Fork – Woolsey to West Fork Park

Middle Fork – Strain Comm Rd to S Harris Dr.

East Fork – Crosses to Durham



Project Results

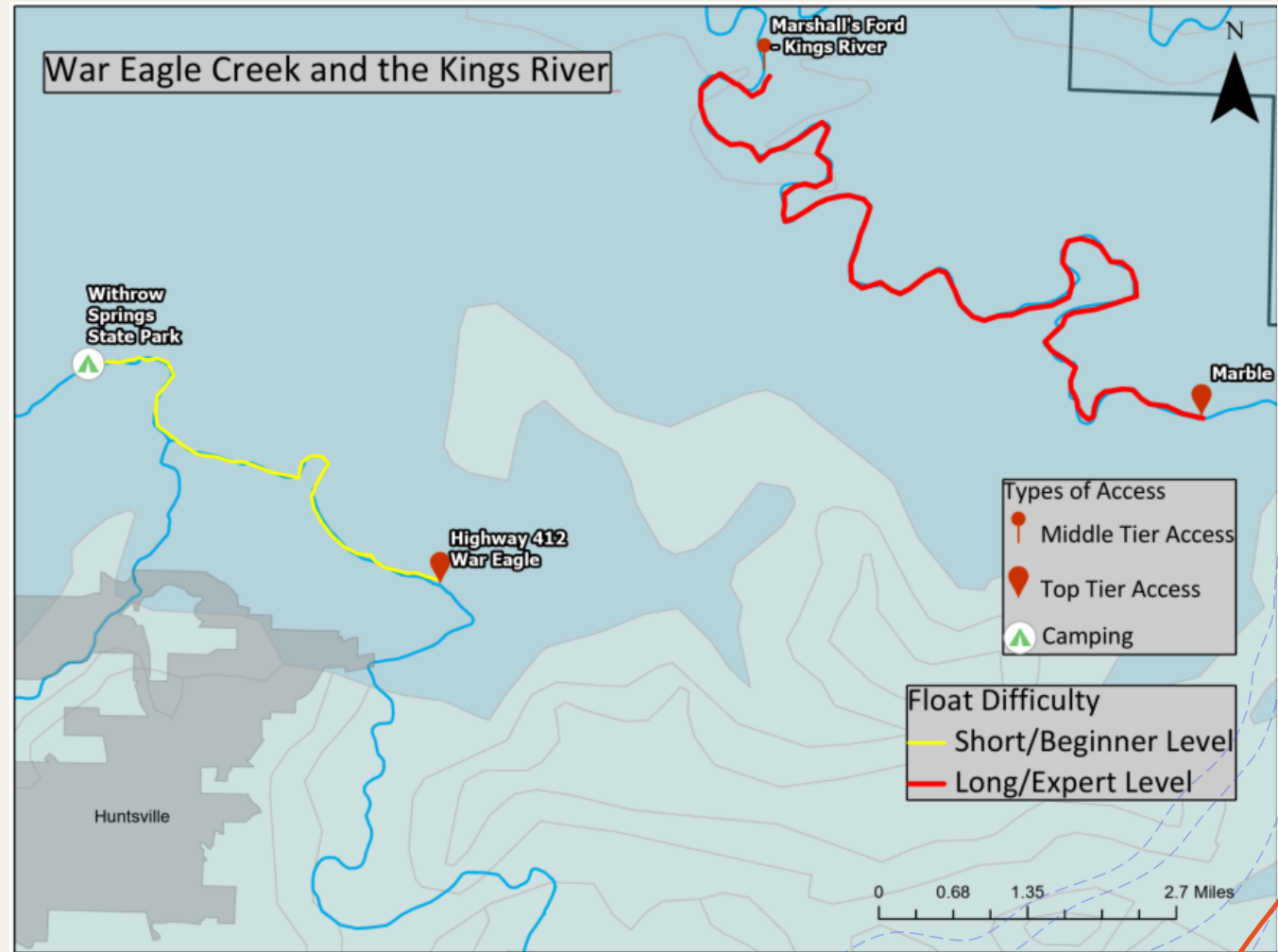
Illinois River – Chambers Springs to Kayak Park



Project Results

War Eagle Creek – Highway 412 to
Withrow Springs State Park

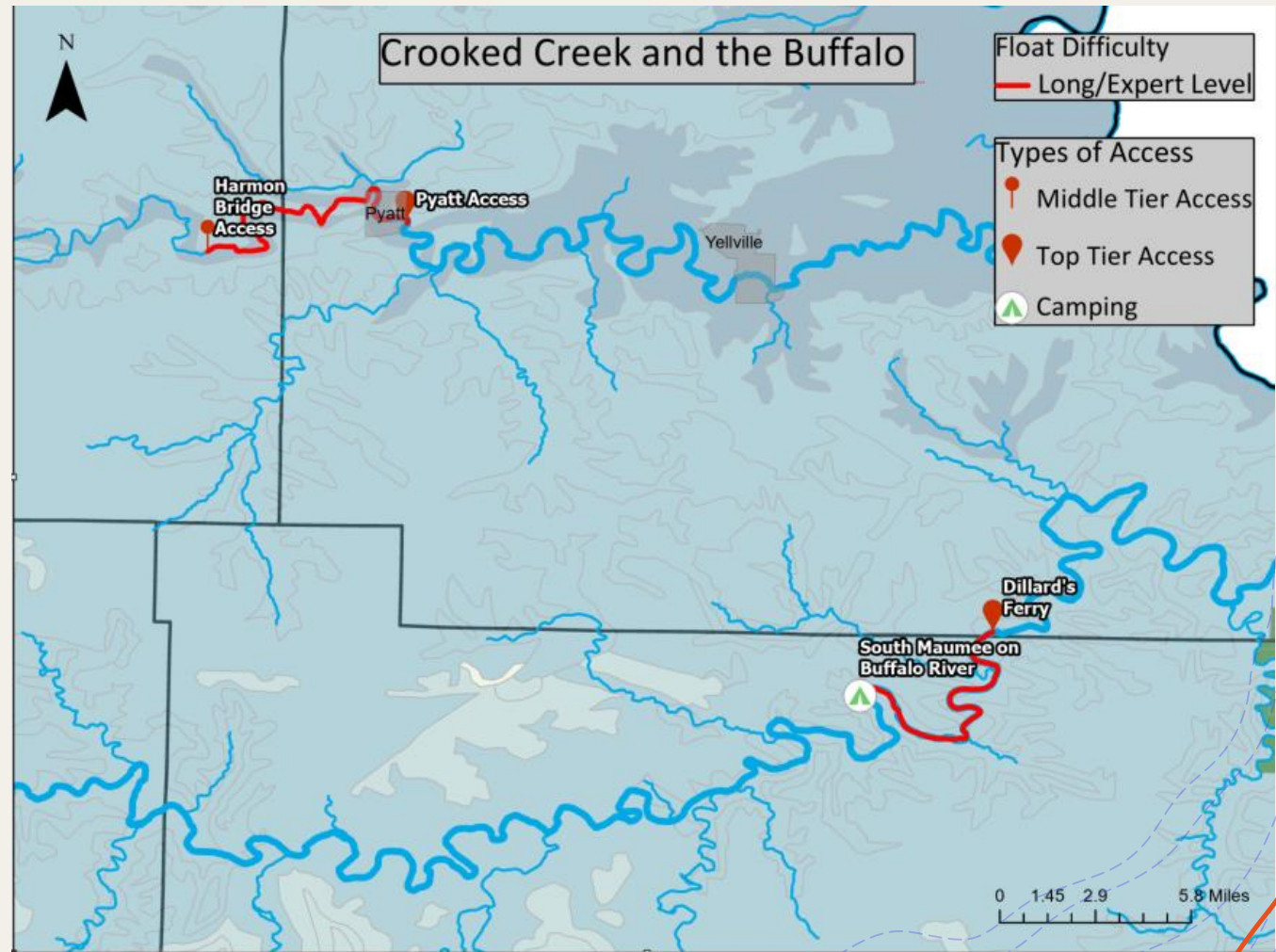
Kings River – Marble to Marshall's
Ford



Project Results

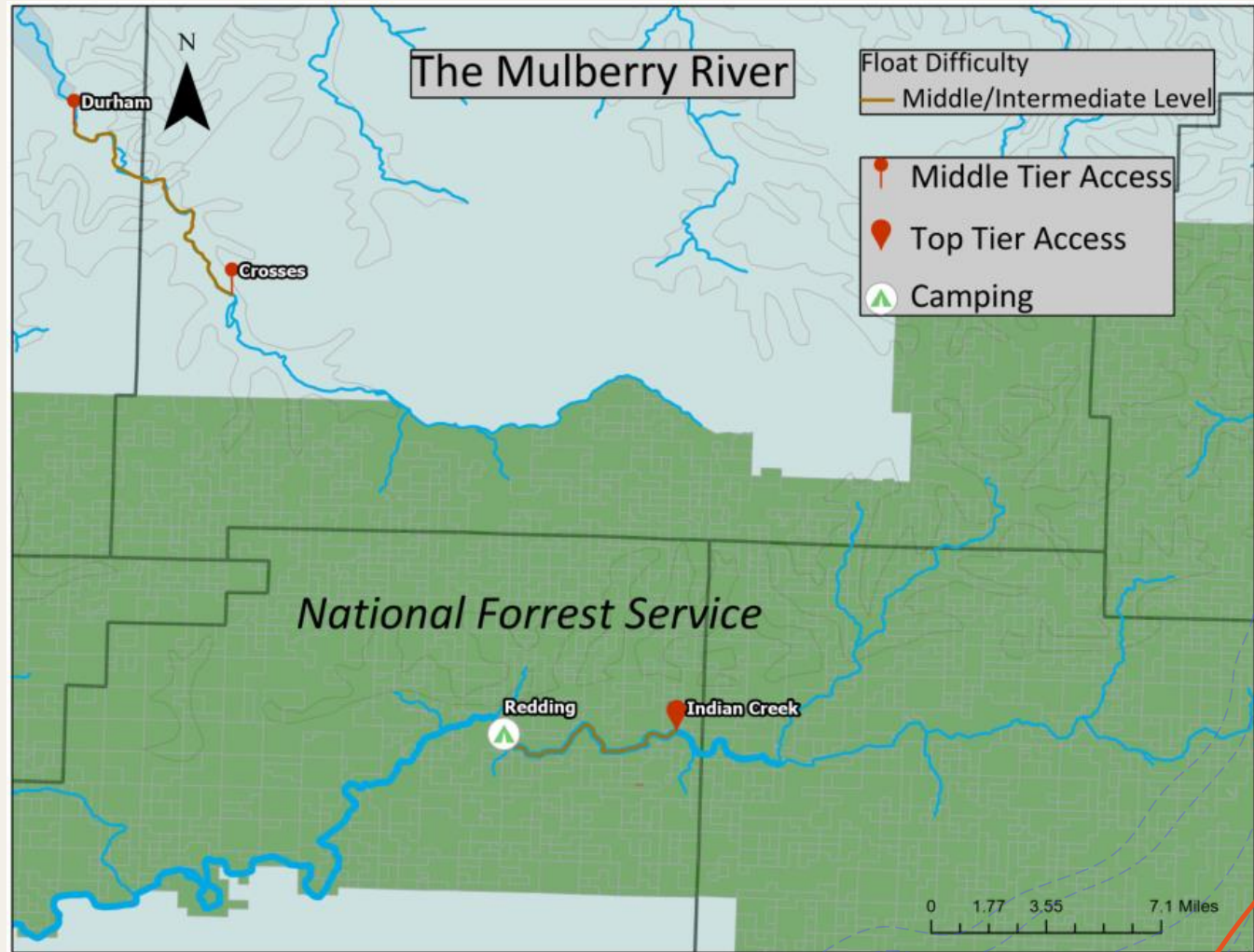
Crooked Creek – Harmon Bridge Access to Pyatt Access

Buffalo River – South Maumee to Dillard's Ferry



Project Results

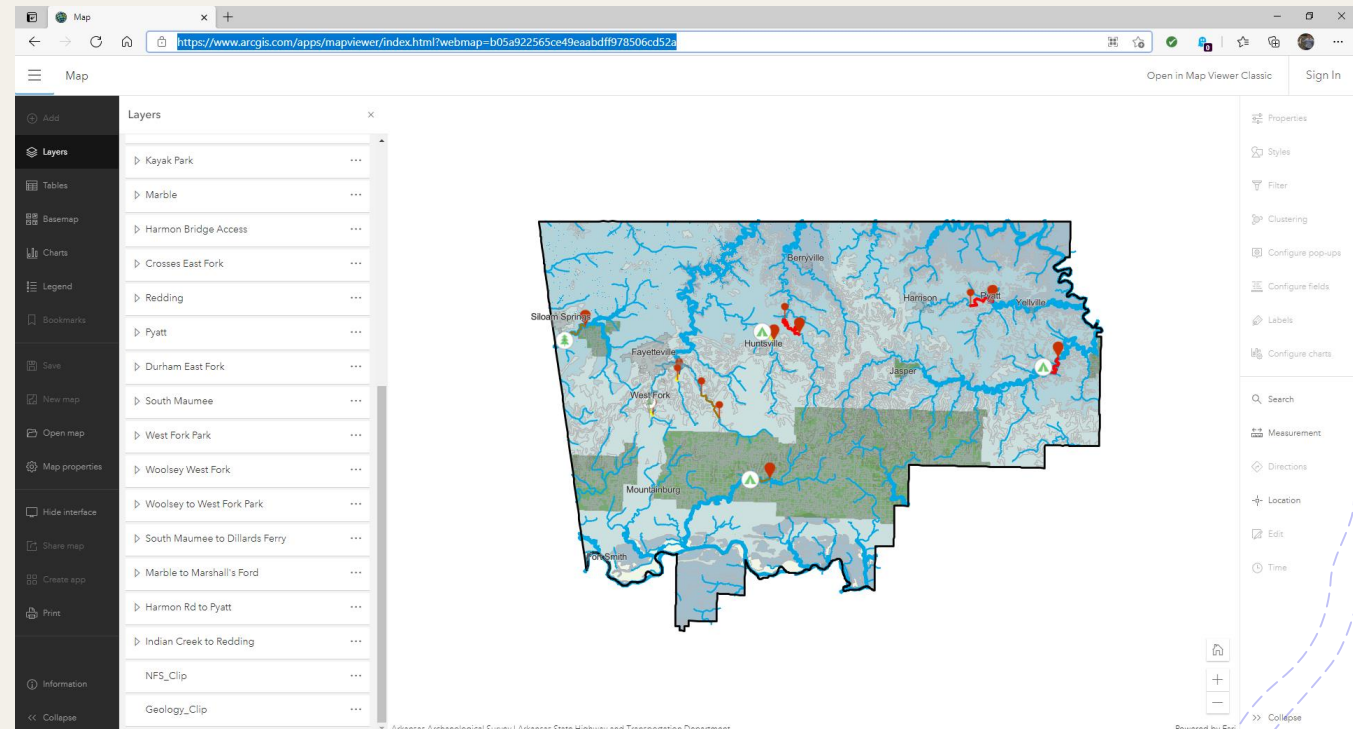
Mulberry River – Indian Creek to Redding



ArcGIS.com

Link to ArcGIS Online Web Map

[Map \(arcgis.com\)](https://www.arcgis.com/apps/mapviewer/index.html?webmap=b05a922565ce49eaabdff978506cd52a)



Future Work –continue

Undergraduate GIS Research Project

- Re-enter all coordinates from Google Earth into an excel file
- Add more accesses and floats
- Add labels
- Create a Journal Map
- This will allow me to provide detailed explanations of access
- Tell whether each access is handicap accessible
- Specify whether the access is National Forest Service, National Parks Service, Arkansas Game and Fish Commission, or a county road

Future Work

- More detailed accounts of the floats that will include descriptions of dangerous parts of the float and exact float length
- Connect to USGS Streamflow so stream height can be observed
- Add pictures of accesses and floats

Content Knowledge

My presentation conveys my knowledge of the subject matter which is greater than the knowledge of my audience.

Special thanks to Professor Paul Lowrey

Thanks - EMPACTS GIST Specialist Nathan Sorey
- C. Dianne Phillips, EMPACTS Facilitator

Appendices/References

List of Places for this Map:

- My personal blog <https://bostonbronzebucks.blogspot.com/>
- Once I have created my map journal map, I would like for it to be accessible through these sources: Arkansas Canoe Club website (<https://arkansascanoecub.com/Conservation>) and other outdoor recreation resources like the Lewis and Clark Outfitters website (<https://gooutandplay.com>) or store and the Pack Rat website (<https://packratoc.com>) or store.