Scull Shoals Visitors Center Inventory and Analysis





Basic Orientation - The proposed Scull Shoals Visitors Center is located on the corners of Skull Shoals Rd.* and Macedonia Rd. The Historic Scull Shoals site is about 3 miles north on the Oconee River at the end of Skull Shoals Road. *Note that the spelling of the road name according to Georgia records and for the US Postal Service is 'Skull Shoals Rd.'



Aerial Photo - Provided for perspective of what is actually on the property currently. We can see most prominently the pine trees originally planted for commercial harvest, some of which are in better health than others. The galded spot toward the center has receded somewhat since this photograph.



Property Ownership Inventory - The Scull Shoals parcel is immedately bounded on the west, south and east by the Plum Creek and on the north by the US Forest Service Experimental Forest. For purposes of access to Macedonia Road, it may be necessary to obtain a permit not only from local Greene County authorities, but also from Plum Creek and Oconee National Forest which own strips adjacent to Macedonia Road, and perhaps from the US Forest service for access to Skull Shoals Road.

Nearby Species of Concern - The species inventoried here are listed either as 'Threatened,' 'Endangered,' or 'Sensitive' according to the US Forest Service: http://www.fs.fed.us. These species may need to be researched prior to building. The Ocmulgee Shiner is the species closest. An inventory of what's on the property also may aid in the educational mission of the Friends of Scull Shoals.



Watershed - Water running off our property flows mostly onto the property of our neighbors, Plum Creek to the west and south. Stabilization of some areas that are severely washing out is suggested.



Right of Way Inventory and Analysis - There is a right-of-way shown in red above that precludes building permanent structures with foundations. We are allowed to use the space for plantings and may cross it with a gravel road.

Chris Sparnicht - For Professor Alfie Vick - Fall 2006

Area Geology - Our site lies entirely within the range of Biotitic Gneiss/Amphibolite - a type of crystalline **Area Soil Inventory** - Our site lies entirely within the range of a soil type known as 'Madison' sandy clay rock found fairly commonly in the North Georgia Piedmont, according to the US Geological Survey: loam, commonly found in ridge communities of the North Georgia Piedmont. http://csat.er.usgs.gov.



Slope Inventory - Slopes range from relatively flat to 29%. Well over 55% the land has a slope of 15% or **Slope Inventory** - The most suitable slope for this analysis lies primarly on the east and north sides of the less. Less than one percent of the land is very flat or very steep. property, with fair sized swaths ranging from north to east.

Inventory and Analysis Notes - This is page 1 of a 3-page set of Inventory and Analysis for this site. Aerial photos, elevations and some other data provided by Professor Alfie Vick. All other GIS data provided by the Georgia GIS Clearing House: http://gis.state.ga.us, including soils, geology, endangered species, etc.





Elevation Analysis - While we are not very close to the Oconee River, it is usually better to consider building on the highest ground. Hense, for this analysis, highest is best.





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Flow Length Inventory - The farther water flows down-hill, the more it tends to accumulate and pick up speed. The farther we are from the top elevation, the faster and more intense water flow will be, for this reason, it is appropriate to inventory and analyze flow length. The longest flow length is just over 1332 feet from the high point on the property to the low point. (See elevation, page 1.)



Aspect Inventory - Aspect is the surface facing a given direction. Aspect is not always easy to visualize with flat colors. Often, it is better to combine it with slope and elevation to achieve a pseudo shading effect.









Viewshed Analysis - There seems to be reasonably wide views from points 1, 2 and 7 with interesting occluded perhaps more intimate views from points 5 and 4.

Viewshed Inventory - A viewshed analysis was done on seven somewhat random viewpoints in order to clarify where some of the best views might be. Topography lends a hand in obscuring views, so this may be helpful for building placement.

Flow Length Analysis - The short the flow length, the less speed and volume of water traversing the land. This lends for more stable building area. Of consequence, better building area is usually higher up. Views to the extreme right show a high water flow length, due to a fluke of topology, up close to where the old well was located. This is probalby not the most suitable place to put a road.

Aspect Analysis - This visualization evaluates south and nearly south slopes as more suitable for building than north and nearly north facing slopes, showing a much better visualization technique that looks like the sun is shining from the south on the topography. South facing aspects are considered better for winter heating considerations. Most local school classes will likely visit in the winter.



Ravine Proximity - Flash floods can happen at the bottom of a normally dry ravine. For this reason, it is appropriate to inventory proximity to the center of ravines.

heavily wooded pine and hardwoods. There are also piles of wood debris from previous work for clearing site lines.

Slope Inventory - Slopes range from relatively flat to 29%. Well over 55% the land has a slope of 15% or less. Less than one percent of the land is very flat or very steep.

Inventory and Analysis Notes - This is page 2 of a 3-page set of Inventory and Analysis for this site. Please see page three for an explanation and combined analysis.

Ravine Proximity Analysis - While most of the property looks well suited to build with respect to Ravine proximity, the spot shown in green should be cross-referenced with the flow length chart to make surei it's okay to build a road across this area, which may otherwise be a fairly obvious choice for access from Macedonia Rd.

Vegetation Analysis - For our purposes, areas of hardwood are considered less buildable. Areas with

open areas and pine areas are considered more buildable.

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Scull Shoals Visitors Center Inventory and Analysis

Weighted Overlay

Priority Matrix

| _ | | | | | | | | | | | | | | | |
|-------------|-----|-------|------|-------|-------------|-------|------|--------|-------------|--|--------|---------------|--------|-----------|------|
| Total # 1's | | | | | | | | | | | Totals | Analysis Item | Adjust | ed Totals | Weig |
| 0 | Veg | getat | ion | | | | | | | | 7 | Flow Length | 8 | | 229 |
| 0 | 0 | slo | ре | | | | | | | | 5 | Viewshed | 6 | | 179 |
| 2 | 1 | 1 | rigł | nt of | way | | | | | | 5 | Right of Way | 6 | | 17 |
| 2 | 1 | 0 | 1 | rav | ine p | oroxi | mity | | | | 3 | Ravine | 5 | | 149 |
| 0 | 0 | 0 | 0 | 0 | 0 elevation | | | | | | 3 | Slope | 4 | | 119 |
| 0 | 0 | 0 | 0 | 0 | 0 | asp | ect | | | | 3 | Vegatation | 4 | | 119 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | flov | v leng | gth | | 1 | Elevation | 2 | | 6 |
| 4 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | view | vshed | | 0 | Aspect | 1 | | 39 |
| | 3 | 3 | 3 | 3 | 1 | 0 | 1 | 0 | Total # 0's | | | - | 36 | | 100 |
| | | | | | | | | | | | | | | 1 | |
| | | | | | | | | | | | | | | | |

Can't have zero for analysis, so augmented all values +1 Adjusted weight manually due to experience, preference

Double check for GIS weighted overlay - should be 100% Weights used in GIS weighted overlay to produce final inventory analysis

Using the Ramsey Priority Matrix, I assigned a value of one or zero to each analysis layer, where 1 = "yes" and 0 = "no." For instance: Is Slope more important than Vegetation? No. So 0 is assigned at to the cell that crosses these to layers. This approach can help clarify in the landscape architect's mind which items have priority over other items. All the zeros are summed across the horizontal, and all the ones are summed across the vertical, (both in yellow.) For each layer, the ones and zeros are totaled again in the adjusted totals. I sorted the analyzed layers by total-descending, adjusted the totals to my taste and created percentages to value my weighted overlay. I used arcGIS's 'weighted overlay' feature, inputting the percentage weights and values accordingly.

ghts for Overlay

Final Weighted Overlay Composite Analysis

From our weighted overlay, we can see clearly the most suitable and unsuitable areas to build. Phase one should begin on the easiest area to build, with consecutive phases extending out from there. The polebarn and access road will be part of phase 1. Extended parking will be part of phase 2. An academic building will be in phase 3.

