

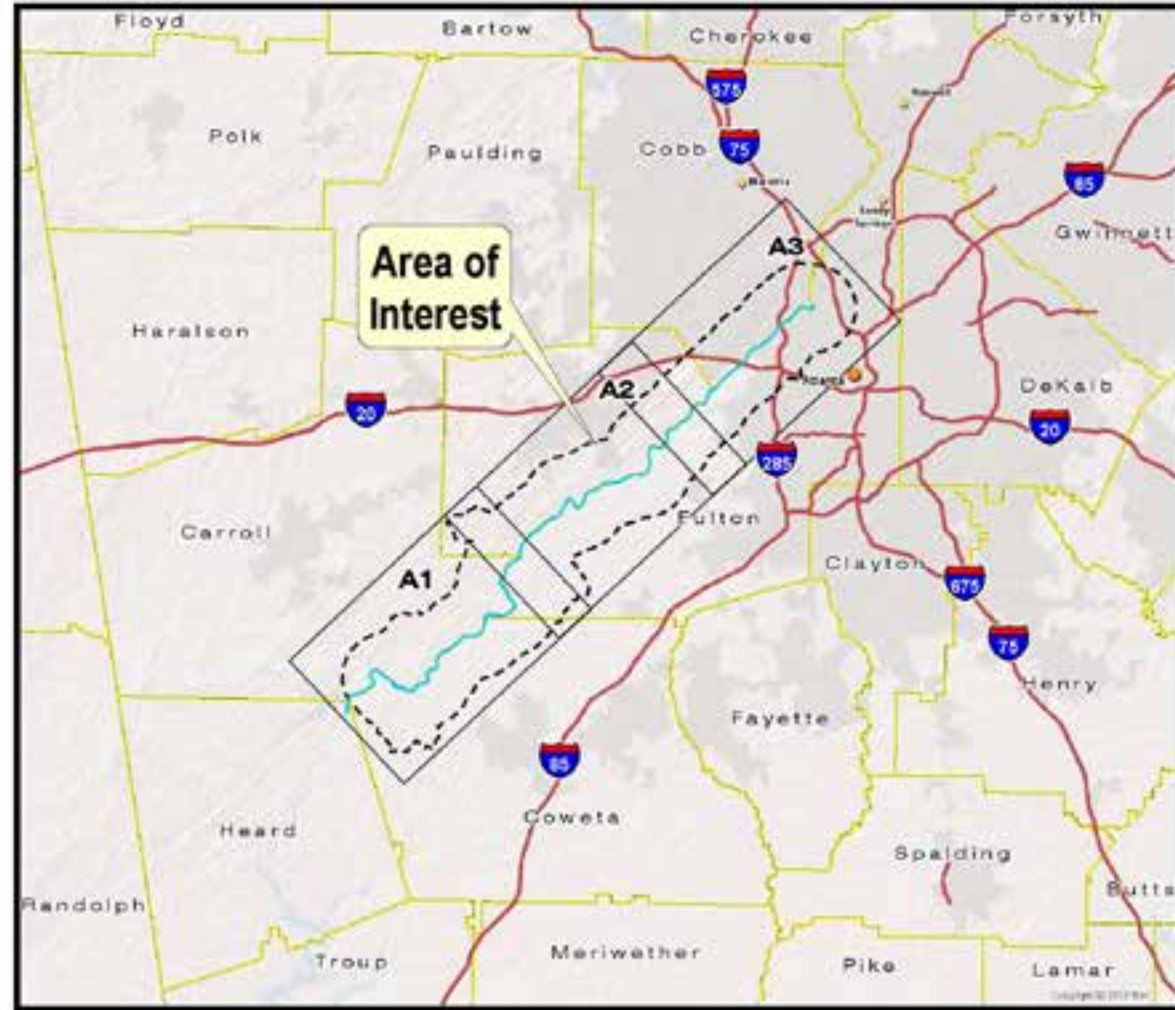
Reimagining the Chattahoochee River with Geodesign

LAND 6030 Nature & Sustainability Studio | Fall 2013
University of Georgia | College of Environment & Design



2014 Geodesign Summit | January 30, 2014
Author/Presenter: Alfie Vick | Co-Author: Alison Smith Bramlet

Site Location & Context




**Chattahoochee
NOW**

Composite Vision Suitability and Proposed Land Use Plan

An modeling exercise, which uses six guiding land use principles toward an idealized vision of a greenway plan within a broad corridor of a 53-mile stretch of the Chattahoochee River.

Performed by Christopher Stebbins
LAND 6030: Nature and Sustainability
University of Georgia, Fall 2013
Professor Alfred Vick, Professor Alison Bramlet

Who's Involved

Studio/Design Team

- Studio Instructors
 - Alfie Vick, Associate Professor
 - Alison Smith Bramlet, Assistant Professor
- 36 MLA II Students
 - Undergraduate studies include:
 - Architecture, Landscape Architecture, Engineering, Sustainable Development, GIS, Anthropology, Horticulture, Others...
 - 50% international students

Client/Stakeholders

- | | | |
|-----------------------------|-------------------------------|-------------------------------|
| • Chattahoochee NOW | • The PATH Foundation | • City of Douglasville |
| • EPA, Region 4 | • Jamestown Properties | • City of Smyrna |
| • National Park Service | • Carroll County | • Atlanta Beltline, Inc. |
| • US ACOE | • Cobb County | • Atlanta Regional Commission |
| • Trust for Public Land | • Coweta County | • And many more... |
| • Chattahoochee Riverkeeper | • Douglas County | |
| • Environment Georgia | • Fulton County | |
| • River Walk Atlanta | • City of Atlanta | |
| • The Conservation Fund | • City of Chattahoochee Hills | |

Project Purpose & Objective

To generate a land use plan for the Chattahoochee NOW study area that seeks to create a sustainable site – one that balances conservation, recreation and development.

- Meet the vision and goals of Chattahoochee NOW
- Be informed by previous studies and suitability analysis
- Acknowledge and enhance the existing resources and stakeholders that will interact with the site.
- Meet the learning objectives of the LAND 6030 course, as described in the syllabus.



PROCESS: Inventory + Analysis + Design

Team work
Individual

I. Inventory

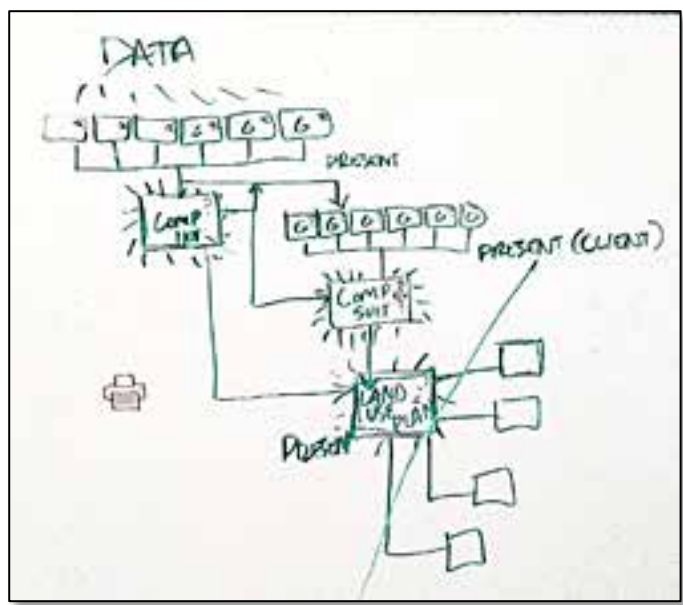
- Project Research
- Case Study Investigation
- Data Collection
- Finalize Site Inventory
- Composite Site Inventory
- Define Project Study Area

II. Analysis

- Define Program Elements
- Research suitability criteria
- Suitability Analysis Maps for each Program Element
- Stakeholder Feedback

III. Design

- Develop Guiding Principles
- Create Composite Suitability Analysis
- Develop Concept Plans
- Develop Proposed Land Use Plan
- Present Design to Client / Stakeholder Feedback

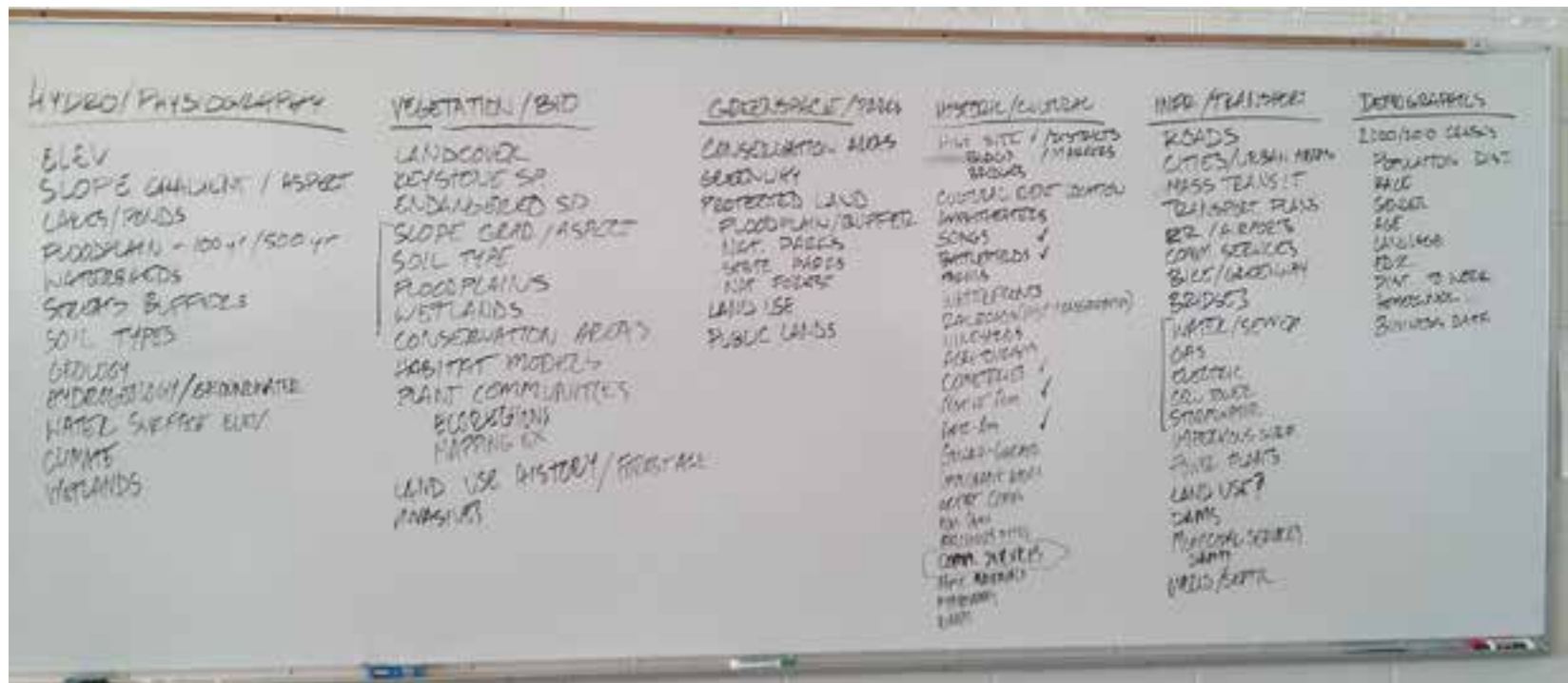


- Research
- Case Studies
- Inventory Groups
- Data Collection
 1. Hydrology / Physiography
 2. Vegetation / Biology
 3. Greenspace / Conservation
 4. Historic / Cultural Resources
 5. Transportation / Infrastructure
 6. Demographics
- Site Definition

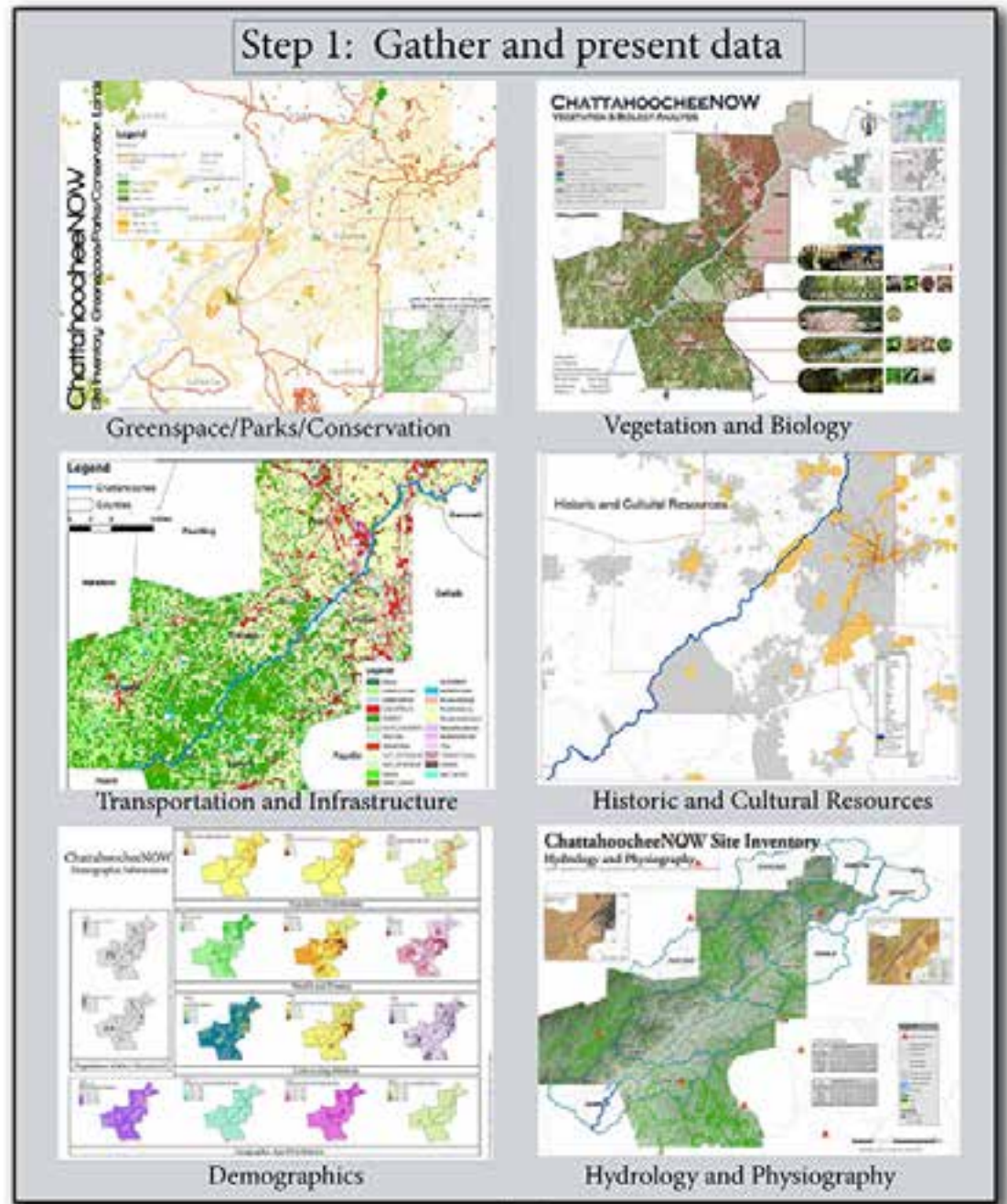
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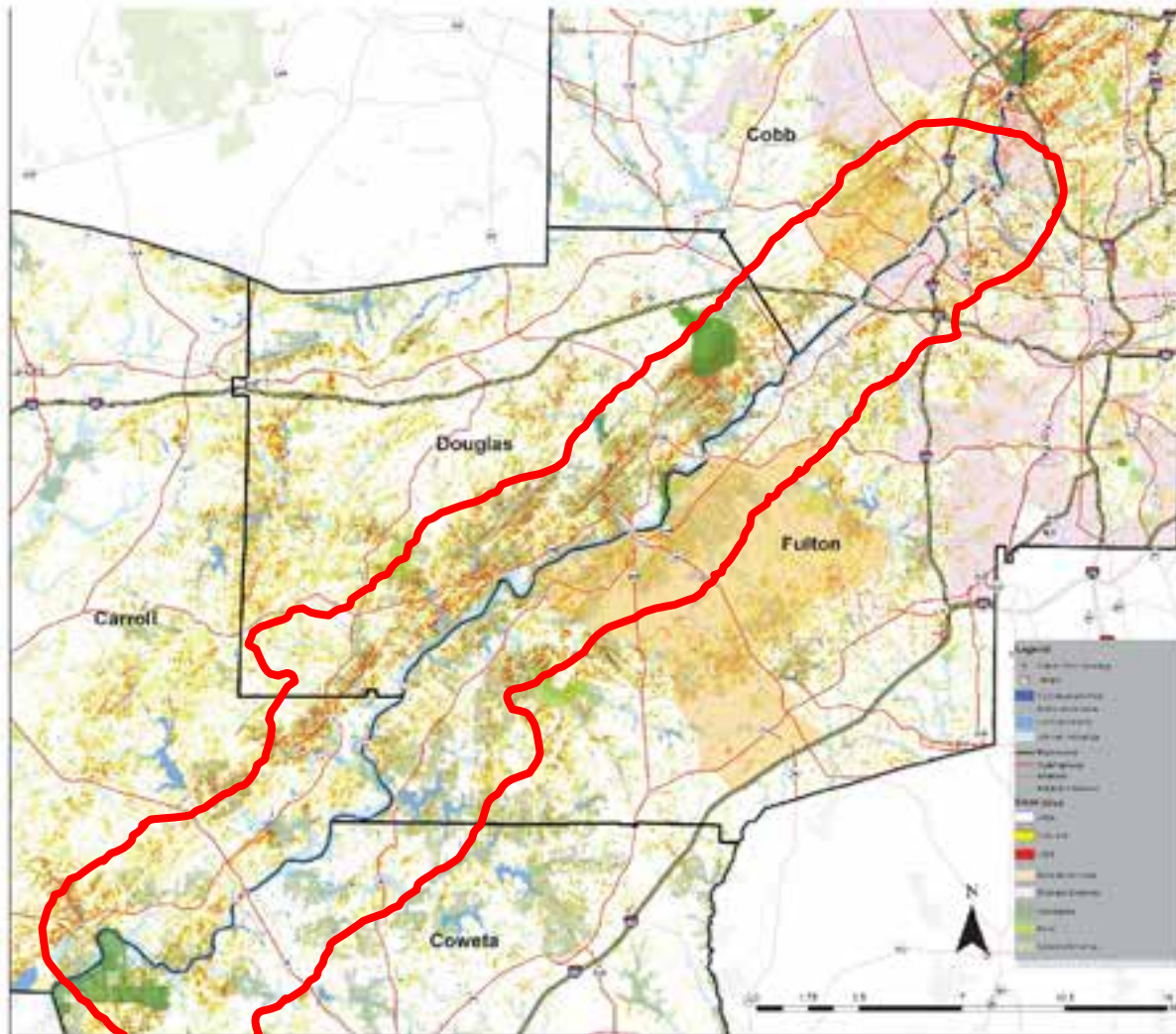


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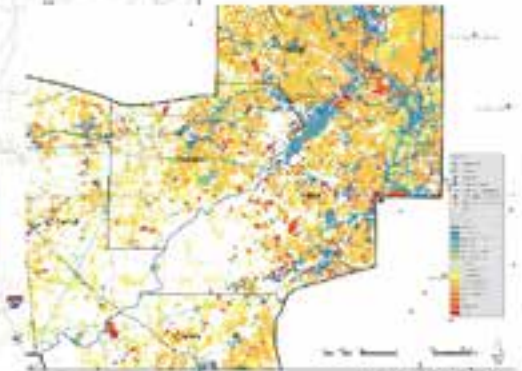
Chattahoochee NOW

Composite Site Inventory Analysis

Kiley Aguar - Professors Smith-Bramlet & Vick - LAND 6030 - Fall 2013



Hydrology



Land Use



Vegetation Cover

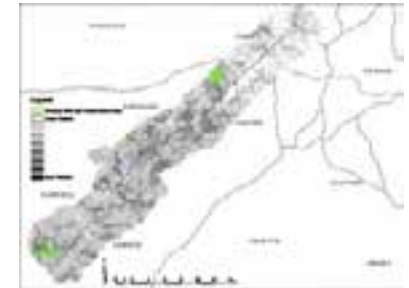


- Discussion with Client & Studio to identify site Program Elements
- Research suitability criteria rankings; rank each criteria high, medium or low
- Create suitability maps for each program element



Program Elements

- Active Recreation
- Agriculture
- Commercial Development
- Conservation
- Cultural Resource Interpretation
- Ecological Restoration
- Industrial Development
- Multi-Use Trail Development
- Passive Recreation
- Residential Development
- Riverfront Development
- Transportation Enhancements

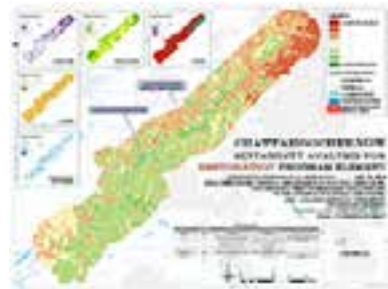
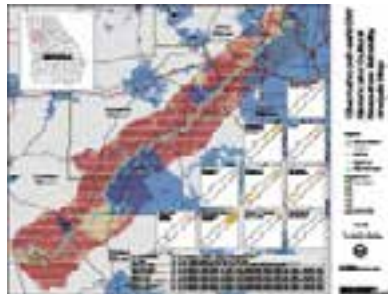


1. Active Recreation

2. Agriculture

3. Commercial Development

4. Conservation

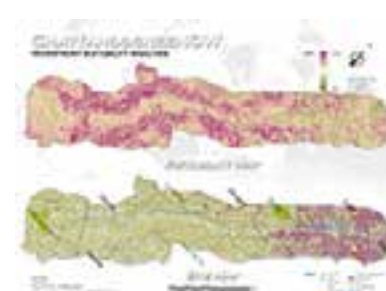


5. Cultural Resource Interpretation

6. Ecological Restoration

7. Industrial Development

8. Multi-Use Trail Development



9. Passive Recreation

10. Residential Development

11. Riverfront Development

12. Transportation Enhancements

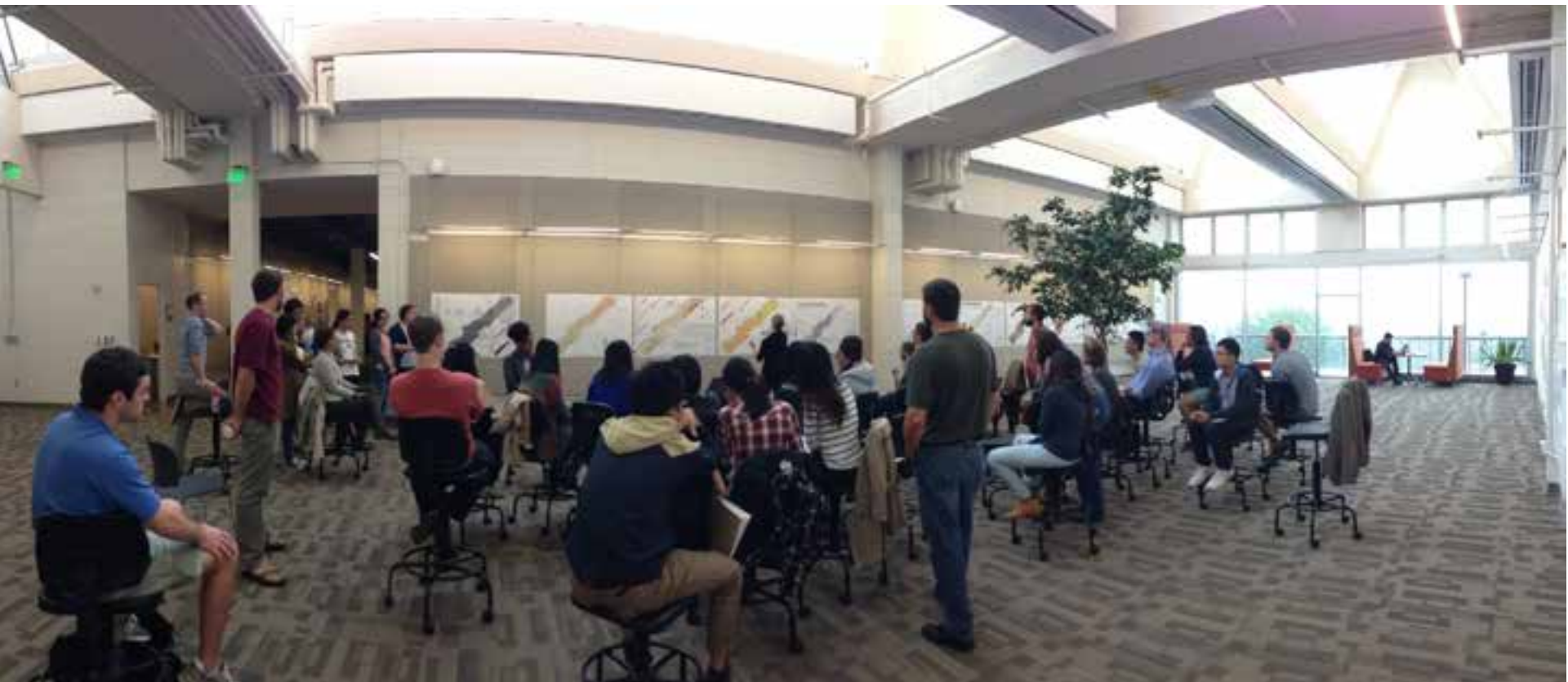
PROCESS:

Inventory

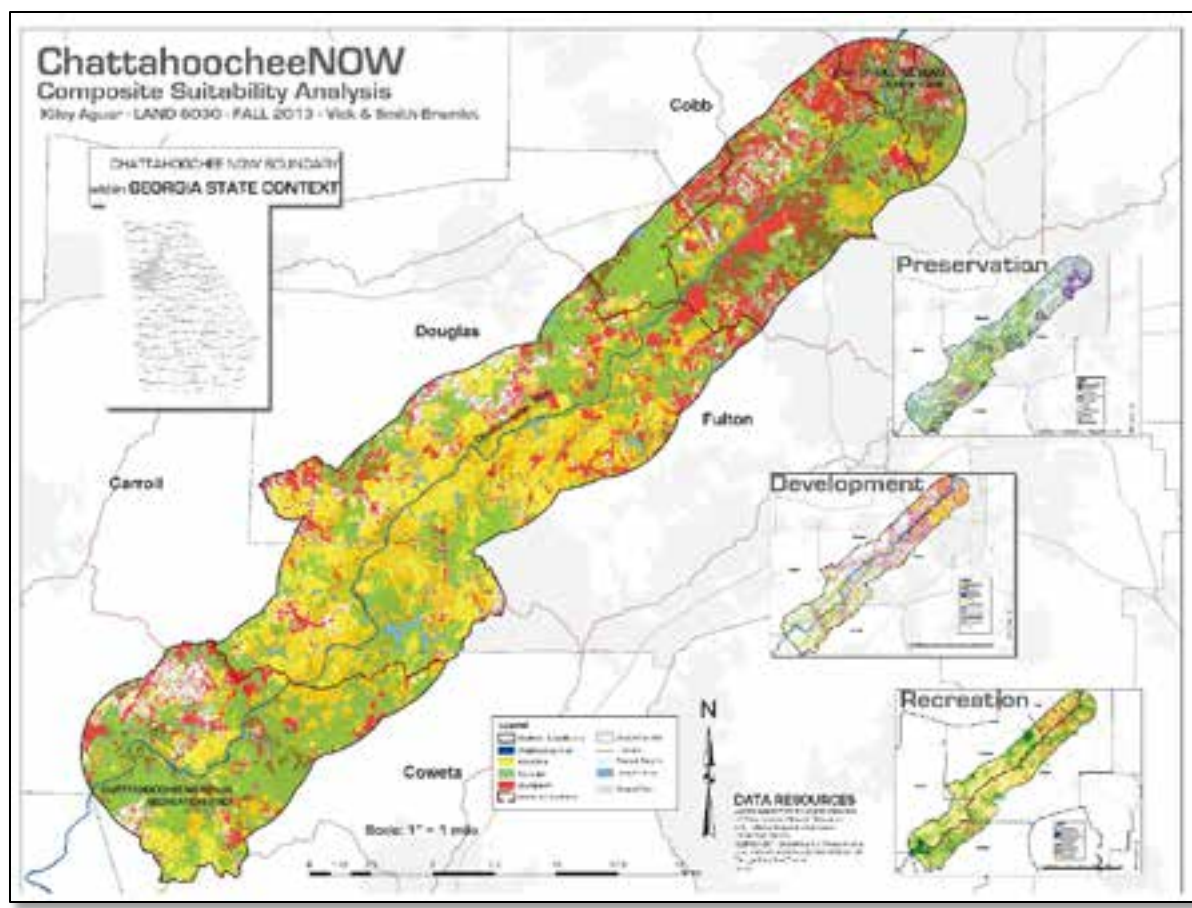
Analysis

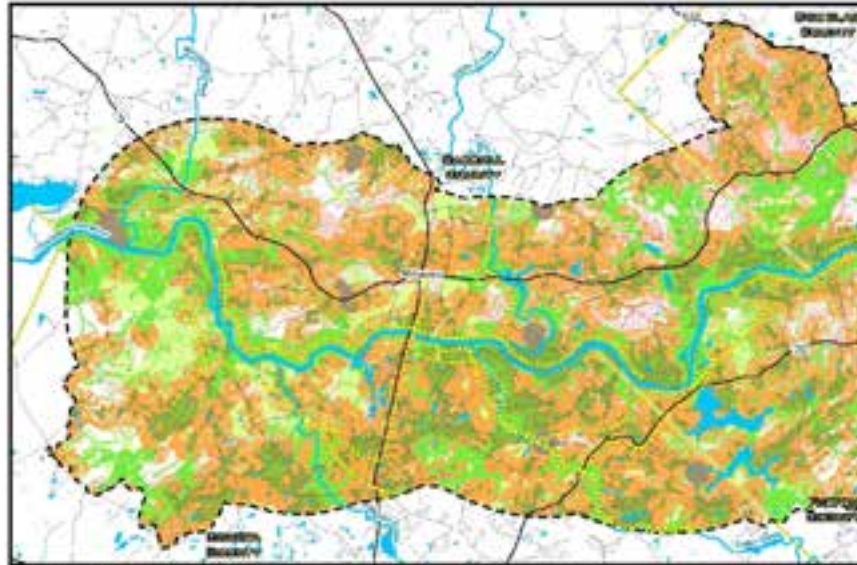
Design

Stakeholder Feedback



- Develop Guiding Principles
- Create Composite Suitability Analysis
- Develop Concept Plans
- Develop Proposed Land Use Plan





ChattahoocheeNOW
 Composite Suitability Map
 Incorporating Six Guiding
 Elements



City of Marietta
 L&E 2016 - Future and Sustainability
 University of Georgia, Fall 2016
 Professor Matt Brown



ChattahoocheeNOW
 General Land Use Plan Map



City of Marietta
 L&E 2016 - Future and Sustainability
 University of Georgia, Fall 2016
 Professor Matt Brown

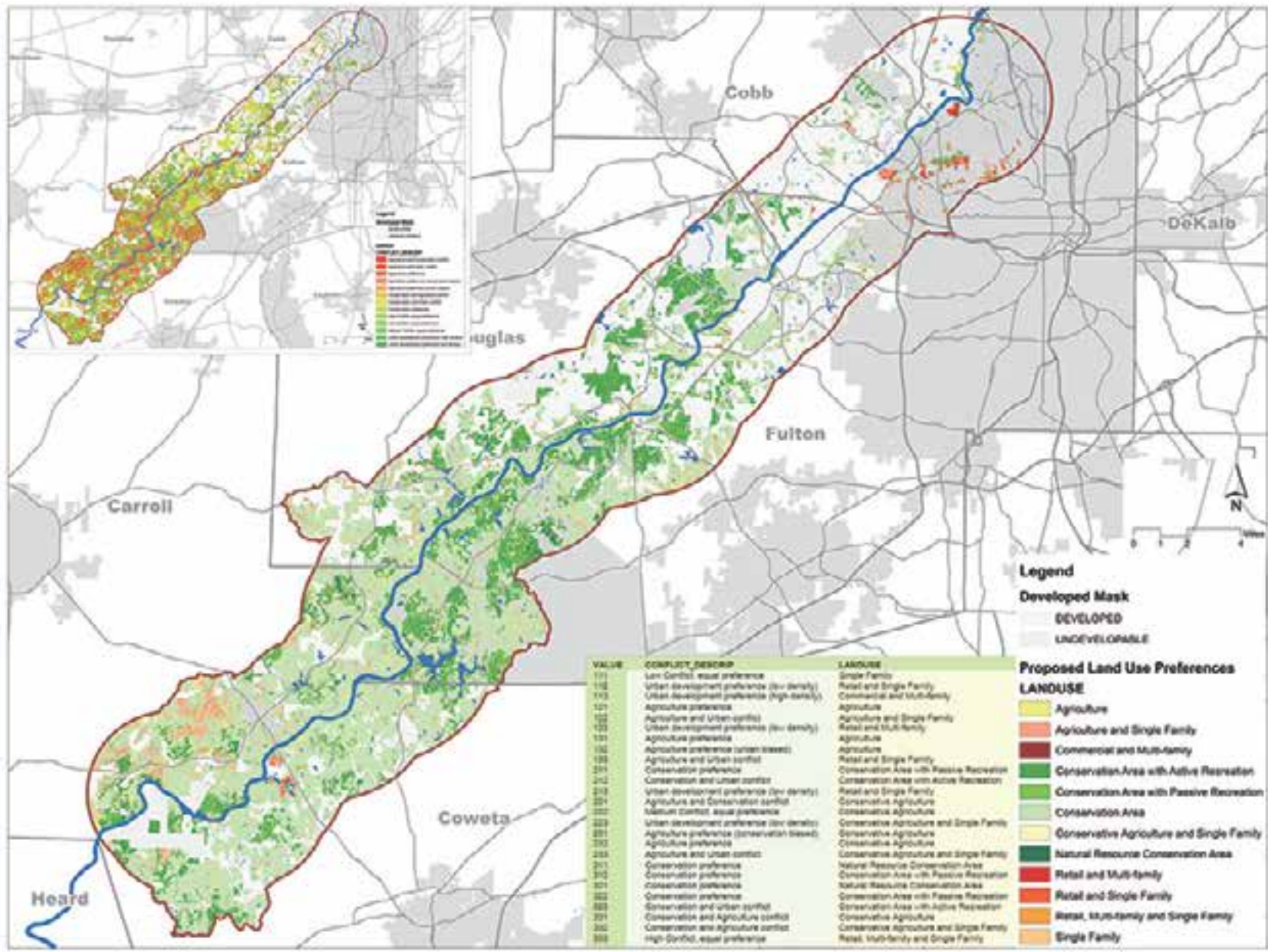
LEGEND

<ul style="list-style-type: none"> Area of Interest Wetlands Highways Water Features County Boundaries City Boundaries 	<ul style="list-style-type: none"> Suitability Threshold Land Use Proposed Previous Existing or Proposed Land Use Classifications Agricultural Change Commercial 	<ul style="list-style-type: none"> Discretionary, Agriculture, Recreational Open Space Forest Residential Native Forest Land Existing Historic District 	<p>1:100,000</p>	
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CHATTAHOOCHEE NOW

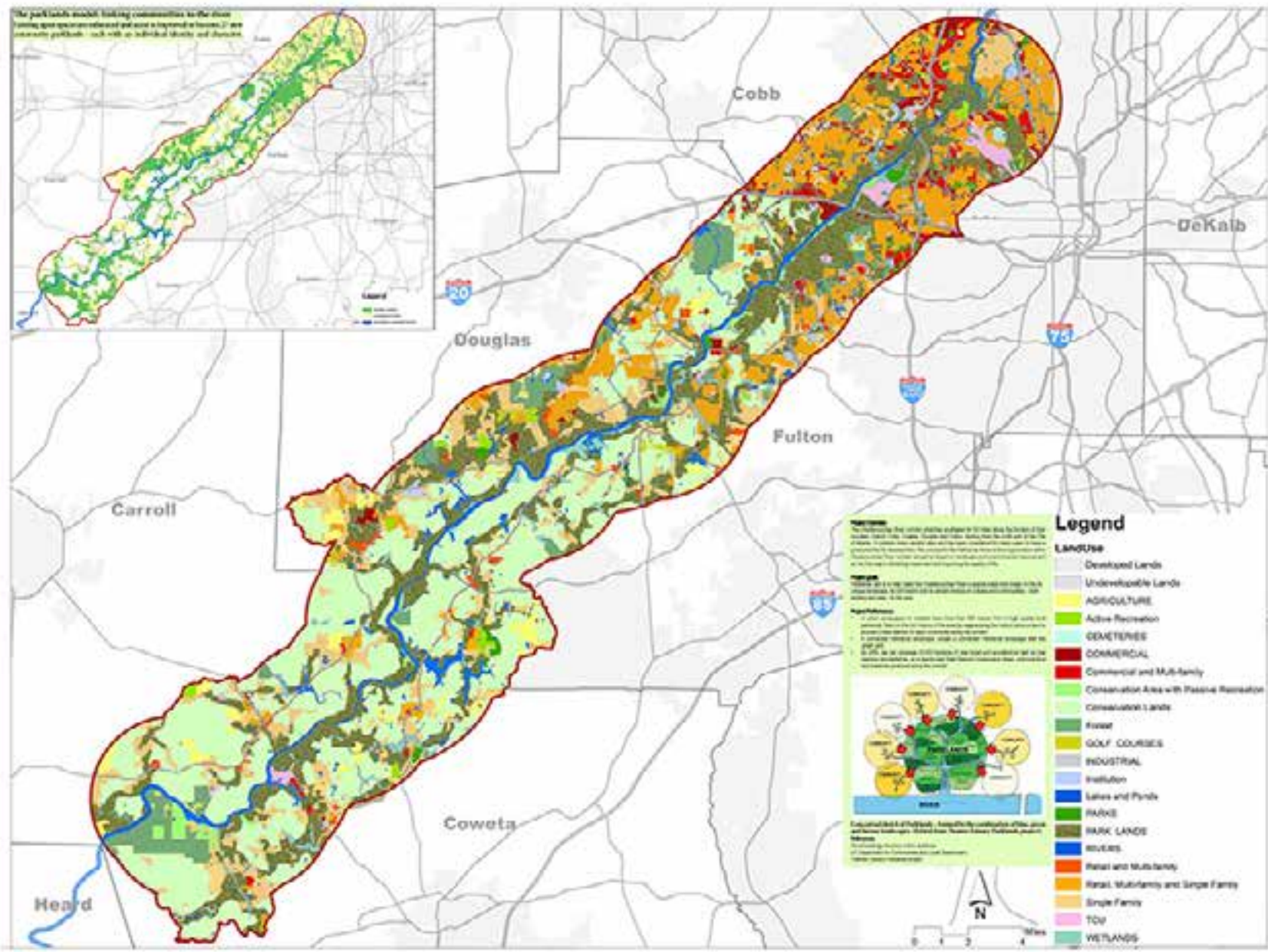
"RE-IMAGING" THE RIVER: A NEW PARKLANDS IN THE CHATTAHOOCHEE RIVER

SITE COMPOSITE INVENTORY AND SUITABILITY ANALYSIS PROCESS
 INSTRUCTORS: PROF. VICK/PROF. BRAMLET STUDENT: NING CHEN



CHATTAHOOCHEENOW
 "RE-IMAGING" THE RIVER: A NEW PARKLANDS IN THE CHATTAHOOCHEE RIVER
 LAND USE MASTER PLAN

INSTRUCTORS: PROF. VICK/PROF. BRAMLET STUDENT: NING CHEN



Stakeholder Feedback



36 Individual Student Designs (Alternative Scenarios)

- Conservation
- Development
- Recreation
- Balanced Approach



ChattahoocheeNOW Site Inventory and Analysis Process

Guiding Principles

1. Protect water quality
2. Minimize surrounding natural stress
3. Link people to the river
4. Encourage density in commercial and residential developments

ACTION PLAN

1. Increase conservation along most of the 100 year floodplain areas along the Chattahoochee and major tributaries. Examples include a commercial and public open space riverbank district in Atlanta, and riverbank parks near high density residential areas. Multi-use trails (i.e. Greenway) for passive recreation represent a compatible land use. Expand trail access along river and create links to cultural and tourist centers. Riverbank trail access should not start industrial areas - make these places visible to increase public awareness.

2. Expand existing parks and protected areas. Identify tracts to target for conservation priority. Attempt to link conservation areas with habitat corridors. Identify a development boundary within which to create incentives for build.

Step 1: Gather and present data

- Geospatial/Parks/Conservation
- Vegetation and Biology
- Transportation and Infrastructure
- Historic and Cultural Resources
- Demographics
- Hydrology and Physiography

Step 4: Combine suitability analyses into a composite map

ChattahoocheeNOW Composite Suitability Map

Step 5: Analyze map and produce land use plan

ChattahoocheeNOW Land Use Plan

Step 2: Generate a Site Inventory

Step 3: Suitability analysis of different program elements

Active Riverbank	Agriculture	Alternative Transportation	Conservation
Ethnic-Cultural	Industrial	Passive Recreation	Recreation
Riverbank Development	Commercial Development	Ecological Development	Vehicular Transportation

- Site Inventory Elements**
- Landfills
 - Waterway crossings
 - Power plants
 - Bridges
 - Expressways, Highways, and Routes
 - Zoo/zoos
 - Solar Parks
 - MARTA rail and bus routes
 - Airports
 - Schools & Colleges
 - Churches
 - Universities
 - Cultural heritage sites
 - Historic sites
 - Parks & Protected areas
 - County & City boundaries
 - Land cover (vegetation)
 - Land use (development)
 - Landmarks (schools, etc.)
 - Rivers and streams
 - Cultural parks
 - Floodplains
 - Wetlands
 - Slope aspect
 - Soil type
 - Elevation
 - Population density
 - Use area
 - Age

Discussion, Lessons Learned & Future Strategies

Reflection and lessons learned:

- The cyclical nature of the Geodesign process builds confidence in the refinement of different scenarios.
- Timely and accurate feedback is critical, yet at times it was difficult with a group this size.
- Engaged stakeholders are a priceless component to the process.
- The use of GIS and suitability analysis allowed for reliable assessment and scenario development with a large and unfamiliar (to the students) site.
- The use of GIS and suitability analysis revealed areas highly suitable for certain uses that may not have been intuitively recognized using traditional methods.
- The strategic balance of group and individual work during the project helps to avoid unnecessary duplication of work yet still allows each student to experience all aspects of the process and explore their own specific design scenario.
- Students were able to justify individual design decisions based on inventory and suitability analysis.
- The level of experience with GIS varied widely among students. Two graduate assistants were helpful in managing technical support for many of the students.
- Some students had difficulty with the “geo” in geodesign. Some had difficulty with the “design” in geodesign.
- Process is key. Some students were uncomfortable with the initial lack of definition of the project (e.g., the project boundary). A clear and comprehensive communication of the process can alleviate some of that discomfort.

Special Thanks to:

Shannon Kettering and all the Chattahoochee NOW stakeholders

Professor Alison Smith Bramlet and all the students in LAND 6030 Nature & Sustainability Studio, Fall 2013 at the University of Georgia, College of Environment & Design:

Kiley Aguar
Thomas Baker
Paul Cady
Ning Chen
Ying Chen
Jialiu Cui
Kristen Daye-Largie
Renee Dillon
Tianyi Dong
Milton Hamilton
Xiaojie He
Tunan Hu
Hiu Ting Li
Yiqian Liang
Emma Liles
Jingying Lu
Juncheng Lu

Nathan Metzger
Christopher Morphis
Gregory Muse
Sig Sandzen
Yang Shen
Chengquezhuoni Shen
Lucie Siggins
Daniel Sizemore
Christopher Stebbins
Qianwen Sun
Xiwei Wu
Yongzhi Xiao
Tianchi You
Yiran Zhao
Yi Zheng
Xuran Zou
Bryan Zubalsky