A Geodesign Approach to Sustainable Development on Jekyll Island

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Geodesign MPS
Capstone Proposal
Spring 2018
Capstone Overview

- Background & History
- Current Conditions
- Problem & Issues
- Goals & Objectives
- Strategies
- Methodology
- Timeline
- Anticipated Results
• 5,530 Acre Costal Island
• Part of the Golden Isles of GA
• Owned by State of Georgia
• Operated by Jekyll Island Authority
• Receives No Public Funding
Why Jekyll?

- Vibrant Natural Diversity
- Unique History
- Relax, Unwind, Disconnect
- Island Life for the Average Georgian
- Public Resource
- Conservation Heavy
Historical Timeline

- **1562**: French Discovery
- **1733**: Discovered by General James Oglethorpe and named in honor of Sir Joseph Jekyll
- **1747**: William Horton purchased a Great Copper Pot for the purpose of brewing beer on Jekyll Island. Became recognized as Georgia’s first brewery.
- **1792**: Successful sea cotton plantation
- **1858**: The Wanderer yacht landed on Jekyll Island, with an illegal cargo of slaves from Africa. One of the last groups of enslaved Africans sold into captivity in America.
- **1886**: Jekyll Island Hunting Club: Rockefeller, Morgan, Vanderbilt, Pulitzer, Baker.
- **1910**: Senator Nelson Aldrich led a party of financial leaders to Jekyll Island to create the forerunner of the Federal Reserve.
- **1947**: Sold back to state. Established as State Park.
- **1971**: GA State Law Established: Only 35% of land may be developed
Current Conditions

• 1971 Law says only 35% of the land can be developed
• Long Term Residents
• Historical District
• Conservation Groups
• Richness of Nature
• 63 Holes of Golf

- 5530 Total Acres
- 1935 Can Be Developed
- 1609 Currently Developed
- 306 Acres to be Developed
2013 Land Use

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed</td>
<td>1,609</td>
</tr>
<tr>
<td>Commercial</td>
<td>255</td>
</tr>
<tr>
<td>Educational</td>
<td>19</td>
</tr>
<tr>
<td>Maintenance</td>
<td>47</td>
</tr>
<tr>
<td>Recreation</td>
<td>707</td>
</tr>
<tr>
<td>Residential</td>
<td>267</td>
</tr>
<tr>
<td>Transportation</td>
<td>226</td>
</tr>
<tr>
<td>Pond</td>
<td>88</td>
</tr>
<tr>
<td><strong>Undeveloped</strong></td>
<td><strong>3,920</strong></td>
</tr>
<tr>
<td>Conservation</td>
<td>3,920</td>
</tr>
<tr>
<td>Total</td>
<td>5,529</td>
</tr>
</tbody>
</table>

Total Acres based on NOAA Mean High Water Estimate

Legend
- Commercial
- Conservation
- Educational
- Maintenance
- Pond
- Recreation
- Residential
- Transportation

480 Acres of Golf

Dune
Wetland
Natural
Forest
Marsh
Find a way to protect unique resources while allowing for limited sustainable development.
Stakeholders

- Jekyll Island Authority
- Full Time Residents (300 or so)
- Historical, Natural and Conservation Groups
- Wildlife – Flora and Fauna
- Glynn County and State of GA
- Hotel & Business Owners
- Tourists
Existing Studies

• 2011 – Conservation Study
• 2014 – Master Plan Study
• 2016 – Transportation Study
• 2017 – National Golf Foundation, Golf Study
• 2018 – Infrastructure & Carrying Capacity Assessment
• 2018 – Updated Conservation Study
Goals and Objectives

• Devise plan to conserve environment and encourage sustainability
• Accurately measure existing conditions by understanding systems
• Identify redevelopment opportunities
• Determine suitability of proposed changes
• Generate re/development scenarios for long term plans
Strategies For Redevelopment

**Land Use**
- Available Land
- Existing Infrastructure Capacity
- Environmental protection

**Economic Viability**
- Water Park & Camp Ground
- Hotel Operations
- Golf Courses are negative

**Other Trends To Consider**
- Vulnerabilities due to Climate Change
- Sea Level Rise
- Storm Surge and Flooding
What is Geodesign

- Long term land use planning
- Framework for solving wicked problems
- Data Driven Decisions
- Communities should influence change toward desired conditions
- Not Tools

“Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts.”

- Dr. Michael Flaxman
Proposed Methodology

- Steinitz Geodesign framework
- Understand the Place
- What systems are involved
- What is and is not working
- Identify and Prioritize opportunities
- Determine Impact of Changes
- How do these relate to stakeholders?
- Criteria for success?
Project Timeline

- Complete Initial Assessment – August 2018
- Build and run geospatial analysis and other models – October 2018
- Present Findings
  - JAN 2019 - ESRI Geodesign Summit
  - March 2019 - ESRI Federal UC
  - Spring 2019 – Local ASLA Chapter
Anticipated Results

- Update the current land use inaccuracies
- Detailed report of current conditions
- Provide viable options for future development scenarios
- Identify Prioritized Redevelopment Options
- Create example for other coastal areas
Sources

- S1: Jekyll Island Foundation
- S2: Jim Remlin – Sherwood Design Engineers
- S3: JIA, Esri, Glynn County GIS
- S4: Jim Remlin – Sherwood Design Engineers
- S5: JIA, Wikipedia
- S6: JIA, Esri, Glynn County GIS
- S7: 2014 JIA Master Plan, Esri, Glynn County GIS
- S8: Jim Remlin – Sherwood Design Engineers
- S9: JIA, IPJI, Westin, 2014 Master Plan
- S10: Remlin, JIA, UGA, AECOM, NGF, Sand County Studios
- S11: Flickr – Joe Marcone
- S12: 2014 JIA Master Plan, Esri, Glynn County GIS
- S13: Bill Miller, Carl Steinitz
- S14: Carl Steinitz, David Godlberg, ESRI, Geodesign HUB, Adobe
- S15: Flickr: Tom Driggers
- S16: Jim Remlin – Sherwood Design Engineers
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