

Rapid Tropical Forest Assessment & Forest Conservation Plan for “The Palms”, St. Croix U. S. Virgin Islands

Prepared for:

**Onaji Jackson
Sustainable Systems and Design International, LLC
PO Box 5370
Christiansted, USVI 00823**

**March 15, 2008
Russell Slatton**

**Geographic Consulting
St. Croix, U.S. Virgin Islands
geographic.consulting@gmail.com**

GEOGRAPHIC CONSULTING

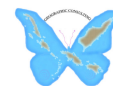


Planning * GIS * Natural Resource Management * GPS * Forestry

Russell Slatton

Authorized ESRI Trainer ArcGIS L #354584
geographic.consulting@gmail.com

tel. (340) 332-5187



Rapid Tropical Forest Assessment & Forest Conservation Plan for "The Palms", St. Croix

Overview of Work Performed:

Geographic Consulting conducted a rapid forest assessment in mid-February to identify current threatened, endangered or significant trees as identified by the DPNR-CZM Tier I permitting process. No threatened or endangered woody or herbaceous species were found. Further work was conducted to identify relevant planting zones for native trees and shrubs to address turtle habitat as well as providing native vegetation for ecological compatibility and human enjoyment.

Findings : Rapid Forest Assessment

The rapid forest assessment was conducted by field survey focusing on tree species greater than six-inch's (15.2 cm) diameter at breast height (DBH) (**Table 1**). The trees were located using a Trimble GPS unit and mapped over a 2007 aerial photo for locations and canopy (**Appendix A**).

Table 1 : Trees found greater than 6" in diameter

Common Name	Genus	Species	# Found
Christmas Palm	<i>Adonidia</i>	<i>merrillii</i>	1
Tibit	<i>Albizia</i>	<i>lebeck</i>	2
Silver palm	<i>Bismarckia</i>	<i>nobilis</i>	1
White Caper	<i>Capparis</i>	<i>indica</i>	1
Sea Grape	<i>Coccoloba</i>	<i>uvifera</i>	13
Coconut	<i>Cocos</i>	<i>nuciferous</i>	187
Buttonwood	<i>Conocarpus</i>	<i>erectus</i>	2
Flamboyant	<i>Delonix</i>	<i>regia</i>	1
Strangler Fig	<i>Ficus</i>	<i>spp.</i>	28
Wild Hibiscus	<i>Hibiscus</i>	<i>tiliaceus</i>	2
Date Palm	<i>Phoenix</i>	<i>spp.</i>	8
Pigmy date palm	<i>Phoenix</i>	<i>roebelenii</i>	3
Frangipani	<i>Plumeria</i>	<i>alba</i>	2
Royal Palm	<i>Roystonea</i>	<i>borinquena</i>	12
Cabbage Palm	<i>Sabal</i>	<i>palmetto</i>	1
Beach Almond	<i>Terminalia</i>	<i>catappa</i>	3
Seaside Mahoe	<i>Thespesia</i>	<i>populnea</i>	1

There were no threatened or endangered trees or herbaceous species found on the property during the survey. The Palms property is a well landscaped area comprised of native and non-native ornamental plants. The vegetation in the coastal area, generally following the CZM line, is comprised of coconuts (*Cocos*



nuciferous) sea grape (*Coccoloba uvifera*). and the potentially problematic, non-native inkberry (*Scaevola scarea*),

The interior landscape is planted with primarily palm trees and some other ornamental plants. Strangler Figs (*Ficus spp.*) and Wild Hibiscus (*Hibiscus tiliacea*) line the current parking areas.

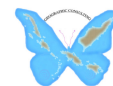
Native Vegetation Planting Zones

Geographic Consulting identified six separate zones on The Palms property each with unique conditions requiring appropriate plants. These zones are identified in **(Table 2)**. Geographic consulting generally recommends native plants for environmentally sensitive areas because they help create landscapes that are ecologically functional and add to the health of surrounding forest. The plants are adapted to thrive under specific conditions. By choosing the appropriate species, one can greatly reduce the water, fertilizer and pesticide requirements of the landscape planting. These zones were discussed and further refined through meetings with the turtle working group and the property owners, Joyce and Chuck Fischer

Table 2 : Planting Zones

Zones
<i>Zone 1 – Coastal Area (Special Emphasis on Human and Turtle Interaction)</i>
<i>Zone 2 – Interior Landscape area around buildings</i>
<i>Zone 3 – Water drainage areas</i>
<i>Zone 4 – Areas abutting trails</i>
<i>Zone 5 – Area around pool (wind and viewing blockage)</i>
<i>Zone 6 – Fence line along east end of property</i>

Six planting zones were identified **(Appendix B)**. The coastal zone addresses that area where people and sea turtles are most likely to interact and lies with the CZM Tier 1 line. The interior landscape is the area where there is no footprint from buildings, parking lots or trails. The water drainage areas were identified from the master plan of utilizing permeable concrete for parking and require landscape plants that will not be harmed by fluctuating water levels and not interfere with parking lot function or infrastructure. A five foot buffer was created around the proposed trails to identify an area with high pedestrian traffic and requiring low-growing attractive plants without thorns that can withstand human impacts. . The area around the pool was identified as a zone to provide wind protection for the residents and guests of the property. The eastern edge was identified as a possible area for a vegetative fence line with the ability to restrict pedestrian traffic.



There are hundreds of plants native to the Virgin Islands. This list highlights just a few of these and should not be considered comprehensive. These plants are all adapted to coastal conditions and will generally need less water, fertilizer and pesticide than imported ornamental plants. Each has additional characteristics that make them appropriate for the suggested zone. The agave, for example, can form an impenetrable barrier for border planting while the sea lavender will not impede pedestrians or sea turtles. As ornamentals, we chose these plants because their colors and textures will provide pleasant contrast with the existing landscape plants. As natives, they fit into the unique character of St. Croix's plant communities. This list (**Table 3**) is to act as a guide to the landscape designer and as an example to future developers.

Table 3 : Recommended Planting List for the Palms Landscaping and appropriate zones

Recommended Species List	Best Planting	Maturation	Local Availability	Zone
Sea Lavender	September-December	1 year	no	1,4
Coco Plum	September-December	5 years	rarely	1,2,4
Pitch Apple	any time	5 years	occasional	1,2,4,5
Eggers agave, Century plant	any time	5 years	occasional	1,2,5,6
Silver Buttonwood, Mangrove Tree	September-December	5 years	common	1,2,5,6
Inkberry (native)	September-December	1 year	rarely	1,4
Sea Grape	September-December	10 years	common	1,2,5,6
Pipe Organ Cactus, Dildo Cactus	any time	5 years	rarely	2,6
Silver Palm, Thatch Palm	September-December	10 years	rarely	2,4
White Frangipani	any time	5 years	sometimes	2,5
Jamaican Caper	September-December	5 years	rarely	2,4,5
Royal Palm	September-December	10 years	occasional	2,3

Full descriptions of each species as well as pictures are provided in **Appendix (C)**.

Turtle Zone Recommendations

Geographic Consulting held a meeting with the Turtle Advisory Group to identify areas of turtle occurrence and possible management strategies for these areas. From this meeting and current information Geographic Consulting created a planting list for these specific turtle zones (**Appendix D**).



Turtle Zone 1 - The first zone was identified as having mainly leatherback nesting activities and some green turtle activity (**Fig. 1**). It is recommended this area be cleared of the non-native inkberry. This will make the strategy consistent with leatherback nesting needs for open sand.



Figure 1 : Turtle Zone 1



Turtle Zone 2 - The zone was identified as more likely to have hawksbill nesting activities. Current vegetation is coconuts and sparse sea grape and patches of the non-native inkberry. We recommend a strategy of utilizing existing vegetation while planting the native inkberry and removing the non-native inkberry with possible plantings of sea grape to fill in areas. These plants and trees provide ground cover which is consistent with the hawksbill nesting within a ground cover.



Figure 2 : Turtle Zone 2



Turtle Zone 3 - The zone was identified as more likely to have hawksbill and green nesting activities. Current vegetation is coconuts and sparse sea grape and patches of the non-native inkberry. We recommend a strategy of utilizing existing vegetation to create a strategy of planting the native inkberry and removing the non-native with possible plantings of sea grape to fill in areas. These plants and trees provide ground cover which is consistent with the hawksbill nesting within a ground cover. Part of the area could be removed of vegetation for the green turtle nesting.



Figure 3 : Turtle Zone 3

Other Recommendations

The interior landscape consists of a collection of ornamental trees, primarily palm trees. These trees can be removed without significant environmental impacts as they are a planted landscape. The row of date palms are mature and valuable trees and some consideration should be given to protecting or removing those



trees during construction (**Figure 4**). An arborist is recommended for this job. The strangler figs located on the southwestern portion of the property lining the parking lot represent a significant management problem. These are highly aggressive trees and are ensnaring 120V electric lines and light fixtures. Some of the trees have grown around the WAPA power lines and need to be removed. Again, a professional arborist should be employed due to the very dangerous possibility of electrocution.



Figure 4 : Strangler Fig in Power Line

Conclusion

This report identified the current vegetation and identified zones for native tree and shrub planting. These recommendations were compiled by Geographic Consulting with input from the Turtle Working Group and the Fischers. The planting list and zoning is meant to be used as a guide to the landscape designer with regard to turtle habitat and human habitation.