Jekyll Island Environmental Assessment Procedure (EAP):

Report summarizing the findings of the EAP Committee considering the redevelopment of the future Jekyll Island Youth and Learning Center, formerly the Jekyll Island 4H Center

Date of EAP Committee meeting: 04/08/2014

EAP Committee members

Ben Carswell, Director of Conservation, JIA (chair, present)
Kimberly Andrews, Research Coordinator, GSTC/JIA (present)
Jim Broadwell, Projects Manager, JIA (present)
Cliff Gawron, Director of Landscape and Planning, JIA (present)
Terry Norton, Director of the GSTC, JIA (not present due to scheduling conflict)
Jason Lee, Program Manager, GADNR, Nongame Conservation Section (present)
Donna Stewart, Director of the Jekyll Island 4H Center, UGA (present)
Steve Newell, distinguished Jekyll Island Resident (present)

Project under consideration

Re-development of the current Jekyll Island 4H Center property slated to become the Jekyll Island Youth and Learning Center (JIYLC).

Summary assessment

The members of the EAP Committee are excited about this project and believe that it offers substantial opportunities to capitalize on an improved environmental portfolio for the property. Investments in low-impact development, energy and water conservation, and environmentally conscientious design can generate a range of benefits including improved service and reduced operating costs. The Committee finds this project, as outlined in the site construction plans submitted to us, to be compatible with the Jekyll Island Conservation Plan contingent upon the following requirements. Recommendations are also provided that the Committee believes would be beneficial investments in the property. As this project continues through the approval process according to the Jekyll Island Design Guidelines, the EAP Committee may provide further recommendations as additional information becomes available. The EAP Committee stands ready to consult with the project manager(s) in regards to any of the requirements or recommendations outlined below.

Requirements

1. Waste management

- A wildlife-proof waste-management system is a critical measure that will reduce operational costs on Jekyll Island. These measures will pay off in reduced staff-time spent cleaning up trash strewn about the property by wildlife and will reduce the chance that JIA or other parties could be held liable for someone being bitten by a raccoon or other animal that would otherwise be likely to be habituated to accessible waste containers.
- All trash and recycling containers and dumpsters should prevent access by raccoons, feral cats, or other animals. This measure will keep the property cleaner and safer for guests and staff, and eliminate wasted staff-time spent cleaning up trash scattered by animals. JIA and other property managers on the island have been successful using wooden trash and recycling containers with latching doors and heavy lids.
- Trash compactors are highly advised because they are much more secure than dumpsters. The Jekyll Island Convention Center and the Jekyll Island Club Hotel have successfully deterred wildlife from waste disposal areas by using compactors provided and serviced by Waste Management. Most dumpster designs are not completely secure, but at a minimum, a dumpster with a locking lid is a necessity.

2. Invasive plants

- Included with this document is a list of Priority Invasive Plant Species that have been identified by the Coastal Georgia Cooperative Invasive Species Management Area (CG-CISMA). Plants on the Priority 1 and Priority 2 lists should not be planted on the property. Plants on the Priority 3 list and watch list may be considered for approval by JIA on a case-by-case basis. These lists expand on the invasive exotic plants identified in the Jekyll Island Design Guidelines.

3. Environmental History interpretation

- The committee applauds plans to develop interpretive displays highlighting the cultural history of the site and encourages the JIA to use the opportunity to connect the cultural history of the site with the natural history of the site either within the same display or through another interpretive feature elsewhere on the property. The GADNR Non-Game Conservation Section has expressed interest in partnering with the JIA in developing such materials.

Recommendations

1. Tree and habitat protection/mitigation

- The Committee identified fragmented but significant wetland and maritime live oak hammock habitat that is currently anticipated to be removed in phase 1. The area encompasses approximately ¾ of an acre and the primary resources of concern are about 0.2 acres of wetland and approximately 24 mature live oak trees. This habitat contributes to the support of painted bunting populations, a priority wildlife species identified in the conservation plan. Furthermore, the value these mature trees could serve on the new campus in providing shade and shelter from the elements is worthy of consideration in the design of the landscape plan. If there is **any** opportunity to preserve some or all of the live oak trees or the wetland (in part or in whole) in situ, the committee strongly favors those options. If removal is unavoidable, the committee recommends that the live oak trees be relocated if possible and/or mitigated for elsewhere on the property. Cost savings from avoiding consulting fees for the permitting necessary to fill the wetland should also be considered.

2. Bio-swale

- The wetland acreage to be filled could alternatively be mitigated on site by creating a bio-swale near Beachview Road north of the proposed maintenance facility. This would be beneficial by providing additional filtration capacity for stormwater runoff and by providing for demonstration of green infrastructure technology on site that could be utilized in education programs and would highlight JIA stewardship efforts.

3. Alternative Energy

- Opportunities for alternative energy use should be thoroughly considered for this project. Solar and geothermal energy were identified by the committee as potential technologies that could be compatible with this site. The committee recommends that a consultant specializing in alternative energy be employed to conduct an energy analysis, prepare recommendations on project scope and technologies, and identify financial opportunities. "Solar Concierge" is a business out of Atlanta that offers this service.

4. Communication of environmental stewardship guidelines to clients

- The staff of the 4H Center is highly competent in guiding appropriate behaviors to limit environmental disturbance on Jekyll Island. The operations plan for the JIYLC should provide for proactive communication with other groups that will be using the facility to inspire the same standards of stewardship. The JIA staff should therefore develop materials in consultation with partners at 4H and DNR that would be provided to the leaders of incoming groups in advance of their visit informing them of island ordinances and environmental stewardship guidelines.

Commendations

1. Sea-level rise preparedness

- The EAP Committee commends the State of Georgia and the JIA for investing in redevelopment of an education center on this site. Because the beach has historically expanded eastward in this area of the island and because of the elevation and planned grading of the site it is to be expected that the facility will not be compromised by predicted sea-level rise of up to 2.3 feet by 2060. This foresight, in combination with the increased permeability of the site and anticipated native landscaping improvements, supports the goals of the Jekyll Island Conservation Plan and contributes to the Jekyll Island Authority's vision to be recognized as a "sustainable conservation community".

2. Protection of adjacent freshwater herbaceous wetlands and back-dune / dune swale vegetation

- The JIYLC is flanked to the Northwest and the Southeast by natural vegetation communities that are recognized in the Conservation Plan as both "communities of highest-priority conservation status" and "special protection areas". The seasonally flooded wetland across Beachview Road supports the island's largest population of Swamp Rosemallow (*Hibiscus grandiflorus*), a priority plant species identified in the Conservation Plan. This population is particularly important because it is situated in a location that makes it more resistant to the effects of salt-water inundation from coastal flooding than any other population of this state-listed plant of "Special Concern" on the island. The current site construction plans indicate that there should be no negative impacts to these high-priority communities. However, should plans change in a way that could result in any impacts to these resources, such changes must be considered by the Director of Conservation and may be referred back to the consideration of this EAP Committee according to the Director's discretion.

Conservation Director's Note (important matters not discussed in committee)

The GADNR Coastal Resources Division has expressed interest in using debris generated from demolition of the 4H Center for artificial reef material to promote fish habitat. If these materials are not needed to be recycled on site, this offers a beneficial and potentially cost-saving option. More broadly, this option should be considered for all projects on Jekyll that generate solid debris and is preferable over costly and wasteful landfill disposal or on-island disposal that negatively impacts our resources.

Attachments

1. Georgia DNR-WRD Non-game Conservation Section Environmental Review
2. Coast GA CISMA priority invasive plant species list

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
WILDLIFE RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

DAN FORSTER
DIRECTOR

February 17, 2014

Jim Bennett
Field Biologist
Resource and Land Consultants
41 Park of Commerce Way
Suite 303
Savannah, GA 31405

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Jekyll Island 4H Center, Glynn County, Georgia

Dear Mr. Bennett:

This is in response to your request of December 9, 2013. According to our records, within a three-mile radius of the project site, there are the following Natural Heritage Database occurrences:

***Ammodramus maritimus macgillivraii* (MacGillivraii's Seaside Sparrow) on site**
Ammodramus maritimus macgillivraii (MacGillivraii's Seaside Sparrow) approx. 0.5 mi. W of site
Ammodramus maritimus macgillivraii (MacGillivraii's Seaside Sparrow) approx. 1.5 mi. N of site
Ammodramus maritimus macgillivraii (MacGillivraii's Seaside Sparrow) approx. 2.0 mi. NW of site
US *Caretta caretta* (Loggerhead Sea Turtle) 0.2 mi. SE of site
US *Caretta caretta* (Loggerhead Sea Turtle) approx. 3.0 mi. S of site
US *Charadrius melodus* (Piping Plover) 0.3 mi. E of site
GA *Charadrius wilsonia* (Wilson's Plover) 0.4 mi. SW of site
GA *Charadrius wilsonia* (Wilson's Plover) approx. 2.0 mi. NE of site
***Crotalus adamanteus* (Eastern Diamond-backed Rattlesnake) on site**
Eleocharis albida (White Spikerush) approx. 2.5 mi. NW of site
Eleocharis albida (White Spikerush) approx. 2.0 mi. N of site
Eleocharis montevidensis (Spikerush) approx. 2.0 mi. N of site
US *Eubalaena glacialis* (Northern Atlantic Right Whale) 0.2 mi. SE of site
GA *Forestiera segregata* (Florida Wild Privet) approx. 1.0 mi. N of site
GA *Haematopus palliatus* (American Oystercatcher) approx. 3.0 mi. W of site
GA *Haliaeetus leucocephalus* (Bald Eagle) approx. 2.5 mi. N of site
Hibiscus grandiflorus (Swamp Hibiscus) less than 0.1 mi. NW of site
Hibiscus grandiflorus (Swamp Hibiscus) approx. 2.0 mi. N of site

NONGAME CONSERVATION SECTION
2065 U.S. HIGHWAY 278 S.E. | SOCIAL CIRCLE, GEORGIA 30025-4743
770.918.6411 | FAX 706.557.3033 | WWW.GEORGIAWILDLIFE.COM

Lanius ludovicianus migrans (Migrant Loggerhead Shrike) approx. 2.0 mi. NE of site
Rhadinaea flavilata (Pine Woods Snake) approx. 3.0 mi. S of site
Rivina humilis (Rouge Plant) approx. 1.0 mi. N of site
GA *Sageretia minutiflora* (Climbing Buckthorn) approx. 2.5 mi. NW of site
GA *Sapindus marginatus* (Soapberry) approx. 2.5 mi. NW of site
GA *Sternula antillarum* (Least Tern) approx. 3.0 mi. SE of site
Tillandsia recurvata (Ball-moss) approx. 0.5 mi. N of site
Tillandsia recurvata (Ball-moss) approx. 0.5 mi. NW of site
Tillandsia recurvata (Ball-moss) approx. 3.0 mi. N of site
US *Trichechus manatus* (Manatee) SE of site in tidal waters
US *Trichechus manatus* (Manatee) NW of site in tidal waters
US *Trichechus manatus* (Manatee) W of site in tidal waters
US *Trichechus manatus* (Manatee) W of site in tidal waters
Acer rubrum - Nyssa biflora - (Liquidambar styraciflua, Fraxinus sp.) Maritime Swamp Forest (Maritime Swamp Forest) approx. 2.0 mi. N of site
Baccharis halimifolia - Iva frutescens - Morella cerifera - (Ilex vomitoria) Shrubland (Groundsel-tree - Maritime Marsh-elder - Wax-myrtle - (Yaupon) Shrubland) approx. 1.0 mi. – 1.5 mi. N of site
Juniperus virginiana var. silicicola - (Quercus virginiana, Sabal palmetto) Forest (Cedar - Live Oak - Cabbage Palmetto Marsh Hammock) 0.5 mi. N and NW of site
Juniperus virginiana var. silicicola - Zanthoxylum clava-herculis - Quercus virginiana - (Sabal palmetto) / Sageretia minutiflora - (Sideroxylon tenax) Woodland (Coastal Red-cedar - Toothache-tree - Live Oak - (Cabbage Palmetto) / Small-fl) approx. 2.5 mi. NW of site
Morella cerifera / Spartina patens - (Juncus roemerianus) Shrubland (Atlantic Coast Interdune Swale) 0.1 mi. SE of site
Muhlenbergia filipes - Spartina patens - Eustachys petraea Herbaceous Vegetation 0.5 mi. W of site
Pinus elliottii var. elliottii / Ilex vomitoria - Serenoa repens - Morella cerifera Woodland (Maritime Slash Pine Upland Flatwoods) approx. 2.0 mi. and 3.0 mi. N of site
Quercus virginiana - (Pinus elliottii var. elliottii, Sabal palmetto) / Persea borbonia - Callicarpa americana Forest (Maritime Live Oak Hammock) less than 0.1 mi. NW of site
Quercus virginiana - (Pinus elliottii var. elliottii, Sabal palmetto) / Persea borbonia - Callicarpa americana Forest (Maritime Live Oak Hammock) approx. 1.0 mi. N and NE of site
***Quercus virginiana - (Pinus elliottii var. elliottii, Sabal palmetto) / Persea borbonia - Callicarpa americana Forest* (Maritime Live Oak Hammock) on site**
Salix caroliniana / Hibiscus grandiflorus / Polygonum punctatum Woodland (Southern Atlantic Coastal Plain Carolina Willow Dune Swale) less than 0.1 mi.NW of site
Spartina bakeri - Kosteletzkya virginica Herbaceous Vegetation approx. 2.0 mi. N of site
Spartina bakeri - Woodwardia virginica - Saccharum giganteum Herbaceous Vegetation (South Atlantic Coastal Pond) approx.0.2 mi. N and 0.5 mi. NE of site
Uniola paniculata - Hydrocotyle bonariensis Herbaceous Vegetation approx. 0.2 mi. SE of site

Uniola paniculata - Hydrocotyle bonariensis Herbaceous Vegetation approx. 3.0 mi. S of site
Uniola paniculata - Hydrocotyle bonariensis Herbaceous Vegetation approx. 0.5 mi. NW of site
Satilla River [High Priority Stream] approx. 2.5 mi. SW of site

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have records of *Ammodramus maritimus macgillivraii* (MacGillivraii's Seaside Sparrow) and *Crotalus adamanteus* (Eastern Diamond-backed Rattlesnake) observed on the site of the proposed 4H project. Additionally, there are several federally listed species (listed above) within three miles of the proposed project. The Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with the United States Fish and Wildlife Service. For southeast Georgia, please contact Strant Colwell (912-265-9336, ext.30 or Strant_Colwell@fws.gov).

There are also occurrences of Maritime Live Oak Hammock communities on the proposed 4H project site. This maritime forest natural community is considered a High Priority Habitat in the Georgia State Wildlife Action Plan (http://www1.gadnr.org/cwcs/Documents/strategy.html) and supports numerous high priority and rare wildlife species. Maritime Live Oak Hammock is currently ranked Globally Imperiled (G2) by NatureServe due to its restricted range and significant development pressure throughout its range. The destruction or degradation of this and related maritime habitats should be avoided on Jekyll Island. Please contact Jacob Thompson (Jacob.Thompson@dnr.state.ga.us) with questions regarding this community.

Atlantic Ocean beach and estuarine shoreline habitat is important for several protected nongame species. Shoreline habitat is dynamic, and significant changes to shoreline habitat are predicted as a result of sea level rise. Permanent structures should be positioned so they are minimally threatened by erosion during the lifetime of the proposed project, and so do not result in the construction of shoreline stabilization structures and the loss of shoreline habitat.

Shoreline change rates are available to the public at the Georgia Coastal Hazards Portal http://gchp.skio.usg.edu/. Jason Lee (Jason.Lee@dnr.state.ga.us) is aware of your project and can be contacted should you have questions.

This project occurs near the Satilla River, a high priority stream. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are important for aquatic biodiversity conservation, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters

available on our website (http://www.georgiawildlife.com/node/1377). Please contact this office if you would like additional information on high priority waters.

NEW ENVIRONMENTAL REVIEW COORDINATOR

Please send all future correspondence to Anna Yellin, Environmental Review Coordinator. Email correspondence is preferred. I can be contacted at anna.yellin@dnr.state.ga.us or 706-557-3283.

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com/node/1376) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Anna Yellin
Environmental Review Coordinator

Data Available on the Nongame Conservation Section Website

- Georgia protected plant and animal profiles are available on our website. These accounts cover basics like descriptions and life history, as well as threats, management recommendations and conservation status. Visit http://www.georgiawildlife.com/node/2721.

- Rare species and natural community information can be viewed by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: http://www.georgiawildlife.com/conservation/species-of-concern?cat=conservation.

- Downloadable files of rare species and natural community data by quarter quad and county are also available. They can be downloaded from: http://www.georgiawildlife.com/node/1370.

Coastal Georgia – Cooperative Invasive Species Management Area
Priority Invasive Species Lists

Priority 1

- Cogongrass - *Imperata cylindrica*
- Chinese Tallow - *Triadica sebifera*
- Japanese Climbing fern - *Lygodium japonicum*
- Common Reed - *Phragmites australis*
- Tamarisk - *Tamarix canariensis*
- Water Hyacinth - *Eichhornia crassipes*
- Chinaberry - *Melia azedarach*

Priority 2

- Beach Vitex - *Vitex rotundifolia*
- Camphortree - *Cinnamomum camphora*
- Tree of Heaven - *Ailanthus altissima*
- Lantana – *Lantana camara*
- Golden Bamboo - *Phyllostachys aurea*
- Chinese / Japanese Wisteria - *Wisteria sinensis / W. japonica*
- Japanese / Glossy/ Chinese privet – *Ligustrum japonicum / L. lucidum / L. sinensis*
- Coral Ardisia - *Ardisia crenata*
- Sand Pine - *Pinus clausa*
- Pindo palm – Butia capitata
- Alligatorweed - *Alternanthera philoxeroides*

Priority 3

- Air yam / Chinese yam - *Discorea bulbifera / Discorea oppositifolia*
- Japanese honeysuckle - *Lonicera japonica*
- Mimosa - *Albizia julibrissin*
- English Ivy – *Hedera helix*
- Kudzu - *Pueraria montana*
- Rattlebox - *Sesbania punicea*
- Water lettuce - *Pistia stratiotes*
- White mulberry – *Morus alba*
- Russian Thistle – *Salsola kali*
- Asparagus fern – *Asparagus aethiopicus*
- Indian fig – *Opuntia ficus-indica*
- Sword fern – *Nephrolepis cordifolia*
- Torpedo grass – *Panicum repens*

- Durban crowfootgrass – *Dactyloctenium aegyptium*
- Bermuda grass – *Cynodon dactylon*
- Bahia grass – *Paspalum notatum*
- Sawtooth Oak – *Quercus acutissima*
- Non-native Lespedeza – *Lespedeza cuneata, L. thunbergii & L. bicolor*
- Red Algae – *Gracilaria vermiculophylla*
- Clumping bamboo – *Fargesia sp.*
- Heavenly Bamboo – *Nandina domestica*
- Tungoil tree – *Vernicia fordii*
- Brazilian vervain – *Verbena incompta*

Invasive Species Watch List

- Australian Pine – *Casuarina equisetifolia*
- Giant Reed - *Arundo donax*
- Old World Climbing Fern - *Lygodium microphyllum*
- Tropical Soda Apple - *Solanum viarum*
- Brazilian Pepper - *Schinus terebinthifolius*
- Chinese silvergrass - *Miscanthus sinensis*
- Brazilian elodea - *Egeria densa*
- Hydrilla *Hydrilla - verticillata*
- East Indian hygrophylia - *Hygrophila polysperma*
- Blue-green algae - *Lyngbya spp.*
- Eurasian watermilfoil - *Myriophyllum spicatum*
- Variable Leaf Milfoil - *Myriophylium heterophyllum*
- Spiny leaf naiad - *Najas marina*
- Common salvinia - *Salvinia minima*
- Parrotfeather - *Myriophyllum aquaticum*
- Callery pear (Bradford pear) – *Pyrus calleryana*
- Water Spinach - *Ipomea aquatic*
- Sweet autumn virginsbower - *Clematis terniflora*