A Management Plan for
Bell Ridge Longleaf
Wildlife and Environmental Area
2014 - 2024

Gilchrist County, Florida

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600
July 7, 2014

Mr. David Alden
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Terrestrial Habitat Conservation and Restoration Section
620 South Meridian Street
Tallahassee, Florida, 32399-1600

Re: Bell Ridge Longleaf Wildlife and Environmental Area – Lease # 4595

Dear Mr. Alden:

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the Bell Ridge Longleaf Wildlife and Environmental Area management plan. The next management plan update is due July 7, 2024.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

[Signature]
Marianne S. Gegenbach
Office of Environmental Services
Division of State Lands
A Management Plan
for
Bell Ridge Longleaf
Wildlife and Environmental Area

Gilchrist County, Florida

Owned by the Board of Trustees of the Internal Improvement Trust Fund
Managed by the Florida Fish and Wildlife Conservation Commission

January 2014

Thomas Eason, Division Director
Division of Habitat and Species Conservation
LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA)
Location: Gilchrist County, Florida
Acreage Total: 719.97 acres
Acreage Breakdown:

<table>
<thead>
<tr>
<th>Land Cover Classification</th>
<th>Acres</th>
<th>Percent of Total Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandhill</td>
<td>719.97</td>
<td>100%</td>
</tr>
</tbody>
</table>

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.

Lease/Management Agreement No.: 4595 (Appendix 12.1)
Use: Single  X  Multiple
Agency FWC
Responsibilities
LEAD, SUBLESSEE (Wildlife and Environmental Area, resource protection, law enforcement)

Designated Land Use: Wildlife and Environmental Area
Sublease (s): None
Encumbrances: List: None
Type Acquisition: Fish and Wildlife Habitat Program
Unique Features: Natural: Sandhill
Archaeological/Historical: None documented within BRLWEA.
Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.
Acquisition Needs/Acreage: Zero acres on FWC Additions and Inholdings list; 3,384 acres remaining in the Longleaf Pine Ecosystem Florida Forever Project (Figure 2).
Surplus Lands/Acreage: None
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.2)

DO NOT WRITE BELOW THIS LINE (FOR DIVISION OF STATE LANDS USE ONLY)

ARC Approval Date
BTIITF Approval Date:
Comments:

Florida Fish and Wildlife Conservation Commission | Bell Ridge Longleaf WEA Management Plan
## Land Management Plan Compliance Checklist

**Required for State-owned conservation lands over 160 acres**

### Section A: Acquisition Information Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Requirement</th>
<th>Statute/Rule</th>
<th>Page Numbers and/or Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The common name of the property.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>The land acquisition program, if any, under which the property was acquired.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Degree of title interest held by the Board, including reservations and encumbrances such as leases.</td>
<td>18-2.021</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>The legal description and acreage of the property.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>68-87</td>
</tr>
<tr>
<td>5</td>
<td>A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>8, 59</td>
</tr>
<tr>
<td>6</td>
<td>An <strong>assessment</strong> as to whether the property, or any portion, should be declared surplus. Provide Information regarding assessment and analysis in the plan, and provide corresponding map.</td>
<td>18-2.021</td>
<td>33</td>
</tr>
<tr>
<td>7</td>
<td>Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. Please clearly indicate parcels on a map.</td>
<td>18-2.021</td>
<td>49</td>
</tr>
<tr>
<td>8</td>
<td>Identification of adjacent land uses that conflict with the planned use of the property, if any.</td>
<td>18-2.021</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.</td>
<td>259.032(10)</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>Proximity of property to other significant State, local or federal land or water resources.</td>
<td>18-2.021</td>
<td>4-6, 9</td>
</tr>
</tbody>
</table>

### Section B: Use Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Requirement</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>The designated single use or multiple use management for the property, including use by other managing entities.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>31</td>
</tr>
<tr>
<td>12</td>
<td>A description of past and existing uses, including any unauthorized uses of the property.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>29-31</td>
</tr>
<tr>
<td>13</td>
<td>A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.</td>
<td>18-2.018</td>
<td>31-32</td>
</tr>
<tr>
<td>14</td>
<td>A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.</td>
<td>18-2.018</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>Include a provision that requires that the managing agency consult with the Division of Historical Resources, Department of State before taking actions that may adversely affect archeological or historical resources.</td>
<td>18-2.021</td>
<td>47</td>
</tr>
<tr>
<td>16</td>
<td>Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.</td>
<td>18-2.021</td>
<td>63</td>
</tr>
<tr>
<td>Item</td>
<td>Requirement</td>
<td>Statute/Rule</td>
<td>Page Numbers and/or Appendix</td>
</tr>
<tr>
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<td>------------------------------</td>
</tr>
<tr>
<td>17</td>
<td>A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.</td>
<td>259.032(10)</td>
<td>31-32</td>
</tr>
<tr>
<td>18</td>
<td>A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent &quot;balanced public utilization,&quot; specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.</td>
<td>18-2.021</td>
<td>31</td>
</tr>
<tr>
<td>19</td>
<td>Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.</td>
<td>BOT requirement</td>
<td>270</td>
</tr>
<tr>
<td>20</td>
<td>An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>32</td>
</tr>
<tr>
<td>21</td>
<td>*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.</td>
<td>18-2.021 &amp; 253.036</td>
<td>N/A</td>
</tr>
<tr>
<td>22</td>
<td>If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.</td>
<td>18-021</td>
<td>46, 147-150</td>
</tr>
<tr>
<td>23</td>
<td>A statement regarding incompatible use in reference to Ch. 253.034(10).</td>
<td>253.034(10)</td>
<td>32</td>
</tr>
</tbody>
</table>

*The following taken from 253.034(10) is not a land management plan requirement; however, it should be considered when developing a land management plan: The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the Board of Trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, storm-water management projects, linear facilities and sustainable agriculture and forestry. Such additional uses are authorized where: (a) Not inconsistent with the management plan for such lands; (b) Compatible with the natural ecosystem and resource values of such lands; (c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands; (d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and (e) The use is consistent with the public interest.

**Section C: Public Involvement Items**

<table>
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<tr>
<td>24</td>
<td>A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.</td>
<td>18-2.021</td>
<td>7</td>
</tr>
<tr>
<td>25</td>
<td>The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.</td>
<td>259.032(10)</td>
<td>109-117</td>
</tr>
</tbody>
</table>
LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.

Summary of comments and concerns expressed by the advisory group for parcels over 160 acres

During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.

The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. Include manager's replies to the team’s findings and recommendations.

Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.

If manager is not in agreement with the management review team’s findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.

Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. Use brief descriptions and include USDA maps when available.

Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.

Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.

Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.

Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.

### Section D: Natural Resources

<table>
<thead>
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<tbody>
<tr>
<td>32</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. Use brief descriptions and include USDA maps when available.</td>
<td>18-2.021</td>
<td>11-13, 119-120</td>
</tr>
<tr>
<td>33</td>
<td>Insert FNAI based natural community maps when available.</td>
<td>ARC consensus</td>
<td>18</td>
</tr>
<tr>
<td>34</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.</td>
<td>18-2.021</td>
<td>14-29</td>
</tr>
<tr>
<td>35</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>28-29</td>
</tr>
<tr>
<td>36</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.</td>
<td>18-2.021</td>
<td>29</td>
</tr>
<tr>
<td>37</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>19-27</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>39</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed endangered or threatened species and their habitat.</td>
<td>18-2.021</td>
<td>20-26</td>
</tr>
<tr>
<td>40</td>
<td>The identification or resources on the property that are listed in the Natural Areas Inventory. Include letter from FNAI or consultant where appropriate.</td>
<td>18-2.021</td>
<td>15-16</td>
</tr>
<tr>
<td>41</td>
<td>Specific description of how the managing agency plans to identify, locate, protect and preserve or otherwise use fragile, nonrenewable natural and cultural resources.</td>
<td>259.032(10)</td>
<td>35-51</td>
</tr>
<tr>
<td>42</td>
<td>Habitat Restoration and Improvement</td>
<td>259.032(10) &amp; 253.034(5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Provide a detailed description of both short (2-year planning period) and long-term (10-year planning period) management goals, and a priority schedule based on the purposes for which the lands were acquired and include a timeline for completion.</td>
<td></td>
<td>53-58</td>
</tr>
<tr>
<td>42-C.</td>
<td>The associated measurable objectives to achieve the goals.</td>
<td></td>
<td>53-58</td>
</tr>
<tr>
<td>42-D.</td>
<td>The related activities that are to be performed to meet the land management objectives and their associated measures. Include fire management plans - they can be in plan body or an appendix.</td>
<td></td>
<td>53-58, 140-146</td>
</tr>
<tr>
<td>42-E.</td>
<td>A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.</td>
<td></td>
<td>60-62</td>
</tr>
<tr>
<td>43</td>
<td>***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. See footnote.</td>
<td>253.034(5)</td>
<td>148-150</td>
</tr>
<tr>
<td>44</td>
<td>Sustainable Forest Management, including implementation of prescribed fire management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44-A.</td>
<td>Management needs, problems and a desired outcome (see requirement for # 42-A).</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>44-B.</td>
<td>Detailed description of both short and long-term management goals (see requirement for # 42-B).</td>
<td>18-2.021, 253.034(5) &amp; 259.032(10)</td>
<td>55</td>
</tr>
<tr>
<td>44-C.</td>
<td>Measurable objectives (see requirement for #42-C).</td>
<td></td>
<td>55</td>
</tr>
<tr>
<td>44-D.</td>
<td>Related activities (see requirement for #42-D).</td>
<td></td>
<td>55, 148-150</td>
</tr>
<tr>
<td>44-E.</td>
<td>Budgets (see requirement for #42-E).</td>
<td></td>
<td>60-62</td>
</tr>
<tr>
<td>45</td>
<td>Imperiled species, habitat maintenance, enhancement, restoration or population restoration</td>
<td>259.032(10) &amp; 253.034(5)</td>
<td></td>
</tr>
<tr>
<td>Item</td>
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<td>-----------------------------</td>
</tr>
<tr>
<td>49</td>
<td>A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.</td>
<td>18-2.018 &amp; 18-2.021</td>
<td>4</td>
</tr>
<tr>
<td>50</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding water resources, including water classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Water under Rule 62-302.700, F.A.C.</td>
<td>18-2.021</td>
<td>28</td>
</tr>
<tr>
<td>51</td>
<td>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding swamps, marshes and other wetlands.</td>
<td>18-2.021</td>
<td>28</td>
</tr>
<tr>
<td>52</td>
<td>***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. See footnote.</td>
<td>253.034(5)</td>
<td>28, 46, 55</td>
</tr>
<tr>
<td>53</td>
<td>Hydrological Preservation and Restoration</td>
<td>259.032(10) &amp; 253.034(5)</td>
<td>55</td>
</tr>
<tr>
<td>53-A</td>
<td>Management needs, problems and a desired outcome (see requirement for # 42-A).</td>
<td>↓</td>
<td>60</td>
</tr>
</tbody>
</table>
**Section F: Historical, Archeological and Cultural Resources**

<table>
<thead>
<tr>
<th>Item #</th>
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</thead>
<tbody>
<tr>
<td>54</td>
<td><strong>Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.</strong></td>
<td>18-2.018, 18-2.021 &amp; per DHR’s request</td>
<td>47</td>
</tr>
<tr>
<td>55</td>
<td>***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.</td>
<td>253.034(5)</td>
<td>47</td>
</tr>
<tr>
<td>56</td>
<td>A description of actions the agency plans to take to locate and identify unknown resources such as surveys of unknown archeological and historical resources.</td>
<td>18-2.021</td>
<td>47</td>
</tr>
<tr>
<td>57</td>
<td><strong>Cultural and Historical Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-A.</td>
<td>Management needs, problems and a desired outcome (see requirement for # 42-A).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-B.</td>
<td>Detailed description of both short and long-term management goals (see requirement for #42-B).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-C.</td>
<td>Measurable objectives (see requirement for #42-C).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-D.</td>
<td>Related activities (see requirement for #42-D).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57-E.</td>
<td>Budgets (see requirement for #42-E).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

While maps of Native American sites should not be included in the body of the management plan, the DSL urges each managing agency to provide such information to the Division of Historical Resources for inclusion in their proprietary database. This information should be available for access to new managers to assist them in developing, implementing and coordinating their management activities.

**Section G: Facilities (Infrastructure, Access, Recreation)**

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. See footnote.</td>
<td>253.034(5)</td>
<td>43, 47</td>
</tr>
<tr>
<td>59</td>
<td><strong>Capital Facilities and Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-A.</td>
<td>Management needs, problems and a desired outcome (see requirement for #42-A).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-B.</td>
<td>Detailed description of both short and long-term management goals (see requirement for #42-B).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-C.</td>
<td>Measurable objectives (see requirement for #42-C).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-D.</td>
<td>Related activities (see requirement for #42-D).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59-E.</td>
<td>Budgets (see requirement for #42-E).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Section H: Other/Managing Agency Tools

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>62</td>
<td>Place this LMP Compliance Checklist at the front of the plan.</td>
<td>ARC and managing agency consensus</td>
<td>iv</td>
</tr>
<tr>
<td>63</td>
<td>Place the Executive Summary at the front of the LMP. Include a physical description of the land.</td>
<td>ARC and 253.034(5)</td>
<td>iii</td>
</tr>
<tr>
<td>64</td>
<td>If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.</td>
<td>ARC consensus</td>
<td>N/A</td>
</tr>
<tr>
<td>65</td>
<td>Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.</td>
<td>259.032(10)</td>
<td>35-58</td>
</tr>
<tr>
<td>66</td>
<td>Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.</td>
<td>253.034(5)</td>
<td>60-62</td>
</tr>
<tr>
<td>67</td>
<td>Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.</td>
<td>259.032(10)</td>
<td>60-62</td>
</tr>
<tr>
<td>68</td>
<td>A statement of gross income generated, net income and expenses.</td>
<td>18-2.018</td>
<td>264</td>
</tr>
</tbody>
</table>

*** = The referenced inventories shall be of such detail that objective measures and benchmarks can be established for each tract of land and monitored during the lifetime of the plan. All quantitative data collected shall be aggregated, standardized, collected, and presented in an electronic format to allow for uniform management reporting and analysis. The information collected by the DEP pursuant to s. 253.0325(2) shall be available to the land manager and his or her assignee.

Management Plan Compliance Checklist - Conservation Lands.xlsx
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1 Introduction and General Information

Longleaf pine sandhills are one of Florida’s most distinctive and endangered natural communities. This forest type has significantly declined in the last few decades due to an increase in land conversion, urbanization and disruption of pre-historical and historical fire regimes. Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) is one of the highest quality longleaf pine sandhill forest tracts in the state of Florida.

Perched among the ancient sandhills of North Central Florida in rural Gilchrist County, BRLWEA is an intact old-growth longleaf-pine, turkey oak, wiregrass natural community. Open canopy and understory conditions are present throughout most of the site, and a diverse herbaceous ground-cover exists in nearly all areas.

Considering the apparent age of the longleaf trees and quality of the natural vegetative ground-cover, it is evident that it has never been cleared for other agricultural uses or that the timber was ever clear-cut. In short, BRLWEA is a benchmark model of an old-growth longleaf-pine sandhill forest ecosystem. Florida Natural Areas Inventory (FNAl) has designated BRLWEA as a reference area for sandhill natural communities. BRLWEA is a multiple use area that allows for outdoor fish and wildlife-based public recreational opportunities that include hiking, bicycling and wildlife viewing.

The relatively sparse tree density of these longleaf pine stands allow for high levels of sunlight to penetrate the canopy. Control of woody broadleaf species, typically with routine fire, allows much of that light to reach the forest floor, encouraging the species-rich understory. Intact and properly managed sandhills are key in the survival of several rare fauna and flora species. Some of the species documented on site include gopher tortoise, Sherman’s fox squirrel, Eastern indigo snake, and southeastern American kestrel.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of BRLWEA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and cultural resources found on BRLWEA. Furthermore, it identifies FWC’s future management intent, goals and associated short and long-term objectives, as well as identifying challenges and solutions. This Management Plan has been developed to guide each aspect of BRLWEA’s management for the next ten years.
This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) of the State of Florida through the Florida Department of Environmental Protection’s Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4595 (Appendix 12.1) and pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with Acquisition and Restoration Council (ARC) requirements for management plans and the model plan outline provided by the staff of DSL. Terms used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1.1 FWC Planning Philosophy

FWC’s planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. FWC engages stakeholders by convening a Management Advisory Group (MAG) and solicits additional input from user groups and the general public at a public hearing (Appendix 12.2). FWC also engages area, district, and regional agency staff, as well as other FWC staff expertise, in developing this Management Plan, thereby facilitating area biologist and manager “ownership” of the Management Plan, and thus the development of meaningful management intent language, goals with associated measurable objectives, timelines for completion, and the identification of challenges and solution strategies for inclusion in the BRLWEA Management Plan (Sections 5 – 7).

Further management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the previous Management Plan if applicable, as well as a field review of the area. The LMR report provides FWC staff with important information and guidance provided by a diverse team of land management auditors, and communicates the recommendations of the LMR team to FWC so they may be adequately addressed in this Management Plan, and thus guides the implementation of the LMR team recommendations on the area. However, because BRLWEA is a more recently acquired property, a LMR has yet to be completed for this area. Upon completion of a LMR for BRLWEA, FWC will incorporate it into the BRLWEA Management Plan.

Furthermore, FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A “living document” concept, linking this updated Management Plan to the previous one, if applicable, is accomplished by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4), thereby ensuring agency accountability through time. Also, in an effort to remain adaptive for the duration of this Management Plan, continuous input and feedback will be collected from FWC staff, stakeholders, user groups, and other interested parties and individuals. As needed,
amendments to this Management Plan will be presented to DSL and ARC for review and consideration.

1.2 Location

BRLWEA is 720 acres and is located in Gilchrist County, lying within parts of Sections 34 and 35, Range 16 East, Township 8 South. BRLWEA is located approximately 23 miles northwest of Gainesville, 30 miles south of Lake City, and 21.5 miles northeast of Chiefland. Other municipalities near BRLWEA include Trenton (12 miles southwest) and Bell (10 miles west) in Gilchrist County; Fanning Springs (17 miles southwest) in Gilchrist and Levy counties; High Springs (7.5 miles northeast) and Newberry (7.5 miles southeast) in Alachua County; Bronson (21 miles south) in Levy County; and Mayo (39 miles northwest) in Lafayette County as shown in Figure 1.

BRLWEA is bordered on the north primarily by privately owned agricultural lands mixed with improved pasture, pinelands, and shrub and brush land. The northern half of the eastern boundary borders County Road (CR) 337. Immediately across CR 337 are privately owned lands that appear to have extant sandhill habitat. The southern half of the eastern boundary borders privately owned pineland. Surrounding privately owned lands, including along the southern boundary and western boundary, appear to have small amounts of sandhill habitat. Lands within the Bell Ridge Unit of the Longleaf Pine Ecosystem Florida Forever Project adjoin the western boundary (Figure 2).

1.3 Acquisition

FWC approved the purchase of BRLWEA in 2007 under FWC’s Fish and Wildlife Habitat Acquisition Program (FWHAP) for the purpose of establishing, managing and conserving a Gopher Tortoise Mitigation Park. The Board of Trustees approved the purchase of BRLWEA in March 2008 and closed on the property on July 15, 2008. FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, FS, which establishes the FWHAP for the purpose of acquiring, assisting other agencies or local governments in acquiring or managing lands important to the conservation of fish and wildlife. Under this authority, FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife.
1.4 Management Authority

FWC is the designated lead managing agency for BRLWEA under the authority granted by Lease Number 4595 from the Board of Trustees agent, DSL. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 373, 375, 378, 403, 487, 870, and 597 and of the Florida Statutes. These constitutional provisions and laws provide FWC the authority to protect, conserve, and manage the State’s fish and wildlife resources.

1.5 Management Directives

The 50-year Board of Trustees’ Lease Agreement Number 4595 with FWC directs FWC to “manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), FS...” The lease agreement further directs FWC to “implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises.”

1.6 Title Interest and Encumbrances

As State-owned lands, title to BRLWEA is vested in the Board of Trustees. On December 22, 2008, DSL, as staff to the Board of Trustees, entered into Lease Agreement Number 4595, a 50 year lease agreement, granting FWC management authority for BRLWEA. There are no known encumbrances to the property.

1.7 Proximity to Other Public Properties

Conservation lands and current Florida Forever projects within a 15 mile radius of BRLWEA are listed in Tables 1 and 2, respectively, and shown in Figure 2. This includes lands managed by public and private entities to conserve cultural and natural resources within this region of Florida. The configurations, locations and proximities among habitats within and among these lands managed for conservation are important to the conservation of the many endemic and rare species within this region of Florida.

Most of the public conservation lands in Table 1 are owned in full fee by a public entity. However, some of these conservation lands are protected by less-than-fee conservation easements consisting primarily of privately owned and managed ranchlands with a public or private entity holding and monitoring a conservation easement. Conservation easements may be held by either public agencies or private entities, while the landowner who sells or otherwise grants the conservation easement retains the remaining title interests. BRLWEA is not located within any Area of Critical State Concern as defined in Section 380.05, F.S.
Table 1. Conservation Lands within a 15 mile Radius of BRLWEA

<table>
<thead>
<tr>
<th>State of Florida</th>
<th>Managing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goethe State Forest</td>
<td>FFS</td>
</tr>
<tr>
<td>Dudley Farm Historic State Park</td>
<td>DEP</td>
</tr>
<tr>
<td>O’Leno State Park</td>
<td>DEP</td>
</tr>
<tr>
<td>River Rise Preserve State Park</td>
<td>DEP</td>
</tr>
<tr>
<td>San Felasco Hammock Preserve State Park</td>
<td>DEP</td>
</tr>
<tr>
<td>Ichetucknee Springs State Park</td>
<td>DEP</td>
</tr>
<tr>
<td>Nature Coast State Trail</td>
<td>DEP</td>
</tr>
<tr>
<td>Fort White Wildlife and Environmental Area</td>
<td>FWC</td>
</tr>
<tr>
<td>Watermelon Pond Wildlife and Environmental Area</td>
<td>FWC</td>
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<table>
<thead>
<tr>
<th>Water Management District</th>
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<tbody>
<tr>
<td>Loncala, Inc. Conservation Easement #1</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Hatchbend Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Grady Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Log Landing Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Rock Bluff Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Stuarts Landing Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Ichetucknee Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>City of Newberry Conservation Easement</td>
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</tr>
<tr>
<td>Upper Waccasassa Conservation Area</td>
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</tr>
<tr>
<td>Santa Fe Springs Conservation Area</td>
<td>SRWMD</td>
</tr>
<tr>
<td>Wannee Conservation Area</td>
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<td>Bonnet Lake Conservation Easement</td>
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<td>Camp Kulaqua Conservation Easement</td>
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<tr>
<td>Robertson Conservation Easement</td>
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<tr>
<td>Watermelon Pond - Ferran</td>
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<tr>
<td>McCall Park</td>
<td>Alachua County</td>
</tr>
<tr>
<td>Watermelon Pond Park</td>
<td>Alachua County</td>
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<td>Poe Springs Park</td>
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### US Charitable Environmental Organizations

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<tr>
<td>Saarinen Preserve</td>
<td>ACT</td>
</tr>
<tr>
<td>Ashton Biological Preserve</td>
<td>ABP</td>
</tr>
<tr>
<td>Warren Cave</td>
<td>NSSI</td>
</tr>
<tr>
<td>Santa Fe River: Ratcliffe Tract</td>
<td>TNC</td>
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### Acronym Key

<table>
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<tr>
<td>ACT</td>
<td>Alachua Conservation Trust</td>
</tr>
<tr>
<td>FFS</td>
<td>Florida Forest Service</td>
</tr>
<tr>
<td>DEP</td>
<td>Florida Department of Environmental Protection</td>
</tr>
<tr>
<td>FWC</td>
<td>Florida Fish and Wildlife Conservation Commission</td>
</tr>
<tr>
<td>NSSI</td>
<td>National Speleological Society, Inc</td>
</tr>
<tr>
<td>SRWMD</td>
<td>Suwannee River Water Management District</td>
</tr>
<tr>
<td>TNC</td>
<td>The Nature Conservancy</td>
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### Table 2. Florida Forever Projects within a 15 mile Radius of BRLWEA

<table>
<thead>
<tr>
<th>State of Florida</th>
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</thead>
<tbody>
<tr>
<td>Ichetucknee Trace</td>
<td>2,786</td>
</tr>
<tr>
<td>Longleaf Pine Ecosystem</td>
<td>3,384</td>
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<tr>
<td>San Felasco Conservation Corridor</td>
<td>376</td>
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<tr>
<td>Southeastern Bat Maternity Caves</td>
<td>20</td>
</tr>
<tr>
<td>Watermelon Pond</td>
<td>12,542</td>
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</tbody>
</table>

### 1.8 Adjacent Land Uses

BRLWEA is surrounded by low population density rural lands, primarily small home sites, and pine plantations that are managed as timberlands. The land in the area surrounding BRLWEA is currently zoned for Agricultural Development and Conservation. This designation allows for agriculture and silviculture uses and related industries, natural resource conservation/preservation and agriculture. Agriculture uses are allowed with a maximum density of one dwelling unit per ten acres.

Currently, BRLWEA and adjacent lands have a future land use designation of Conservation. The majority of the surrounding area has a future land use designation of Agricultural, which identifies a maximum residential density of one dwelling unit per ten acres.
1.9 Public Involvement

FWC conducted a MAG meeting in Trenton, Florida on September 14, 2011, to obtain input from both public and private stakeholders regarding management of BRLWEA. Results of this meeting were used by FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.2. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Trenton, Florida on October 20, 2011, by the BRLWEA MAG. The report of that hearing is also contained in Appendix 12.2. A website is also maintained for receipt of public input at http://myfwc.com/conservation/terrestrial/management-plans/develop-mps/. Further testimony and input is received at a public hearing held by ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.
Figure 1. BRLWEA Proximity Map with Section, Township and Range
Figure 2. Conservation Lands and Florida Forever
2 Natural and Cultural Resources

2.1 Physiography

2.1.1 Climate

The climate of Gilchrist County, like most of Florida, is humid and subtropical. However, locally within Florida climate differs from one place to another as influenced by latitude, land and water distribution, prevailing winds, storms, pressure systems and ocean currents. North Florida tends to exhibit colder temperatures because the warming effects of Atlantic and Gulf of Mexico waters exert less influence than on the peninsula when cold fronts move through. Altitude may have important effects on susceptibility to frost and freezing during the winter.

The average annual maximum temperature for the City of High Springs during the period 1944 to 2007 was 82.9°F. The average minimum annual temperature for the same period was 58.6°F. During this period, January was the coldest month with an average mean temperature of 54.8°F; July and August were both the warmest months with average mean temperature of 81.5 °F.

2.1.2 Topography

The land elevation of BRLWEA ranges from approximately 70 to 105 feet above Mean Sea Level (MSL). All of BRLWEA has variable topography of hills and depressions, with ridges exceeding point elevations estimated to be over 100 ft MSL. Upland depressions may dip below 70 ft MSL.

Florida is divided into three major physiographic divisions or zones. Gilchrist County lies at the northernmost extent of the Central or Mid-peninsula Zone, near the Northern or Proximal Zone. BRLWEA occupies a location within two such features that include the northernmost extent of the Brooksville Ridge in the southern part of BRLWEA and the Northern Gulf Coastal Lowlands in the northern part of BRLWEA.

The Brooksville Ridge is a topographic highland extending from eastern Gilchrist County southeastward into Pasco County. It is the most massive of Florida’s ridges and at 110 miles long is approximately equal in length to the Lake Wales Ridge. BRLWEA is located at the northern terminus of the Brooksville Ridge approximately two miles east of the
Waccasassa Flats, which are within the Northern Gulf Coastal Lowlands. The Brooksville Ridge consists of sands and clay deposited during the Pleistocene and Miocene Epochs (approximately 25 million to 10,000 years ago) on older karstic limestone of the Eocene Epoch (formed approximately 38 million years ago).

When moving northward or westward from sandhill elevations exceeding 100 ft MSL on BRLWEA, one descends an escarpment representing slopes of the Brooksville Ridge, into lowlands extending towards the Santa Fe River to the north, or to lower elevations and more frequent wetlands of the Waccasassa Flats to the west. Elevations of the Waccasassa Flats west of BRLWEA are approximately 75 ft. This escarpment was formed by marine geological processes that occurred during the Pleistocene Epoch. However, topographies at these lower elevations are still variable, with sandhills distributed throughout. The Bell Ridge is a separate geomorphic feature lying west of the Brooksville Ridge, from which it is separated by the Waccasassa Flats.

2.1.3 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify BRLWEA’s soil series and soil depth to water table (Figures 3 and 4). Five map units described in the soil survey of BRLWEA are distributed as shown in Figure 3. Analyses of depth to water table for map units occurring within BRLWEA are also provided in Figure 4. The NRCS defines a soil map unit as: “a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey.” Soil map units may contain multiple soil components, which are given names that are unique identifiers. Figure 3 provides aggregation data for BRLWEA map units. Soils series descriptions may be found in Appendix 12.3.
Figure 3. BRLWEA Soils Type
Figure 4. BRLWEA Depth to Water Table
2.1.4 Geologic Conditions

The geologic units found at the BRLWEA are listed, in order of increasing age and depth: the undifferentiated Hawthorn Group, the Ocala Limestone and the Avon Park Formation. The undifferentiated Hawthorn Group formations are a stratigraphic unit of Miocene age exposed or close to the surface. It consists of poorly to moderately consolidated clayey sands to silty clays and relatively pure clays with little to no phosphate which vary from light olive gray to blue gray in unweathered sections to reddish brown in deeply weathered sections. The Ocala Limestone is an Upper Eocene stratigraphic unit consisting of nearly pure limestone and occasional dolostones. The Avon Park Formation is a Middle Eocene stratigraphic unit consisting of variably fossiliferous limestone and vuggy dolostones including fossils of ancient marine macro invertebrates, foraminifera, algae and other plants.

The major mineral resources of Gilchrist County which have been, or potentially could be, economically important are limestone and sand. A sand mine is located northeast of BRLWEA in the northeast corner of Gilchrist County. Limestone, sand and associated gravel are mined for use in construction and various other industrial purposes.

2.2 Vegetation

The BRLWEA is composed of a single parcel of land. Georectified aerial photography from 1940 was utilized in delineating historic natural communities. Historic aerial photography gives insight into natural condition, past management and land use, but is insufficient to exactly determine historic community structure and composition of many areas. Examination of 2007 true color imagery, 2004 true color DOQQs, 1999 Infrared DOQQs, 1995 Infrared DOQQs and input from the area manager helped determine the natural communities that are present at BRLWEA.

FWC has completed the mapping of the historic and current natural communities of BRLWEA through the services of FNAI using Geographic Information System (GIS) computer software. FNAI has identified one natural community occurring on BRLWEA, as displayed in Figure 5. A list of observed imperiled/rare, exotic invasive and native plant species have been compiled and are listed in Tables 3, 4 and 5 respectively.

The State Endangered sandhill spiny-pod occurs with some regularity across the site. Invasive exotic plant species are infrequent and are limited to one single occurrence of mimosa and camphor tree.
### Table 3. Imperiled or Rare Plant Species Observed at BRLWEA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandhill spiny-pod</td>
<td><em>Matelea pubiflora</em></td>
<td>SE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>State Endangered</td>
</tr>
</tbody>
</table>

### Table 4. Exotic Invasive Plants Observed on BRLWEA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camphor tree</td>
<td><em>Cinnamomum camphora</em></td>
</tr>
<tr>
<td>Mimosa</td>
<td><em>Albizia julibrissin</em></td>
</tr>
</tbody>
</table>

### Table 5. Native Plant Species Observed at BRLWEA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam’s needle</td>
<td><em>Yucca filamentosa</em></td>
</tr>
<tr>
<td>Black cherry</td>
<td><em>Prunus serotina</em></td>
</tr>
<tr>
<td>Bracken fern</td>
<td><em>Pteridium aquilinum</em></td>
</tr>
<tr>
<td>Common persimmon</td>
<td><em>Diospyros virginiana</em></td>
</tr>
<tr>
<td>Elliott’s bluestem</td>
<td><em>Andropogon gyrans</em></td>
</tr>
<tr>
<td>Fimbry</td>
<td><em>Fimbristylis sp.</em></td>
</tr>
<tr>
<td>Florida greeneyes</td>
<td><em>Berlandiera subacaulis</em></td>
</tr>
<tr>
<td>Golden aster</td>
<td><em>Chrysopsis sp.</em></td>
</tr>
<tr>
<td>Laurel Oak</td>
<td><em>Quercus laurifolia</em></td>
</tr>
<tr>
<td>Little bluestem</td>
<td><em>Schizachyrium scoparium</em></td>
</tr>
<tr>
<td>Longleaf pine</td>
<td><em>Pinus palustris</em></td>
</tr>
<tr>
<td>Lopsided indiangrass</td>
<td><em>Sorghastrum secundum</em></td>
</tr>
<tr>
<td>Pineywoods dropseed</td>
<td><em>Sporobolus junceus</em></td>
</tr>
<tr>
<td>Queen’s delight</td>
<td><em>Stillingia sylvatica</em></td>
</tr>
<tr>
<td>Roundleaf bluet</td>
<td><em>Houstonia procumbens</em></td>
</tr>
<tr>
<td>Sand blackberry</td>
<td><em>Rubus cuneifolius</em></td>
</tr>
<tr>
<td>Sand live oak</td>
<td><em>Quercus geminata</em></td>
</tr>
<tr>
<td>Sandhill spiny-pod</td>
<td><em>Matelea pubiflora</em></td>
</tr>
<tr>
<td>Saw palmetto</td>
<td><em>Serenoa repens</em></td>
</tr>
<tr>
<td>Silver croton</td>
<td><em>Croton argyranthemus</em></td>
</tr>
<tr>
<td>Slash pine</td>
<td><em>Pinus elliottii</em></td>
</tr>
<tr>
<td>Sugarcane plume grass</td>
<td><em>Saccharum giganteum</em></td>
</tr>
<tr>
<td>Sweet goldenrod</td>
<td><em>Solidago odora</em></td>
</tr>
<tr>
<td>Turkey oak</td>
<td><em>Quercus laevis</em></td>
</tr>
<tr>
<td>Winged sumac</td>
<td><em>Rhus copallinum</em></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Wiregrass</td>
<td>Aristida stricta var. beyrichiana</td>
</tr>
<tr>
<td>Witchgrass</td>
<td>Dichanthelium sp.</td>
</tr>
<tr>
<td>Yankeeeweed</td>
<td>Eupatorium compositifolium</td>
</tr>
</tbody>
</table>

### 2.2.1 FNAI Natural Community Descriptions

Sandhill extends across gently rolling hills and shallow valleys within the Coastal Plain physiographic province in the southeastern United States. Sandhill is characterized by a canopy of widely spaced pine trees with a sparse midstory of deciduous oaks and a moderate to dense ground-cover of grasses, herbs and low shrubs occurring over a rolling topography composed of deep sands. At BRLWEA the canopy consists of widely scattered, mixed age longleaf pine, the oldest of which are in the 80 to 100-year-old range. Within the sparse subcanopy are slash pine, black cherry, sand live oak, turkey oak and laurel oak.

Shrubs include common persimmon, longleaf pine, sand live oak, turkey oak, winged sumac, sand blackberry, saw palmetto and Adam’s needle. Many of the smaller diameter oaks, primarily turkey oaks less than four inches diameter at breast height, that recently dominated the understory were hand thinned. The ground-cover is primarily composed of wiregrass and covers up to 70 percent of the ground in some areas. Other herbaceous species include Elliott’s bluestem, Florida green-eyes, golden aster, silver croton, witch-grass, yankee weed, fimbry, round-leaf bluet, sandhill spiny-pod, bracken fern, sugarcane plume grass, little bluestem, sweet goldenrod, lopsided Indian grass, piney woods drop seed and queen’s delight. Also, FNAI has indicated that BRLWEA, as well as neighboring the Longleaf Pine Ecosystem Florida Forever Project offer important habitat for numerous species.
2.2.2 Forest Resources

BRLWEA consists of open, mixed aged longleaf pine with an understory of turkey oak, sand live oak and post oak. The wiregrass ground-cover is mostly intact and in good condition. Timber management activities on the BRLWEA will be long-term oriented and infrequent, every 20 years or so, directed at the maintenance of a healthy basal area range of 40 to 60 square feet per acre. The basal area of the stand is a dynamic measurement, changing over time. Through the planned management activities which include prescribed burning and selective hardwood control, longleaf pine basal area will increase over the long-term, requiring the need for some type or commercial thinning in order to maintain the basal area in an acceptable range to meet management objectives.
Figure 5. BRLWEA FNAI Natural Communities
2.3 Fish and Wildlife Resources

BRLWEA has a diverse assortment of plant and animal species (Tables 3 – 10). An inventory of amphibian and reptile species occurring on BRLWEA is not yet available. Gopher tortoise burrows are common through the sandhill and the potential for Florida pine snakes appears high. A recent gopher tortoise survey was conducted to estimate population density of this species on site. The listed eastern indigo snake has been observed on site. Additional wildlife monitoring by FWC on BRLWEA includes Florida mouse surveys and southeastern American kestrel nest box monitoring.

An FWC Wildlife Conservation Prioritization and Recovery (WCPR) strategy was completed for BRLWEA in 2013. Of the 60 focal species, 14 were modeled to have potential habitat on the BRLWEA (Table 7). Except for those species identified with an alphabetical superscript, workshop participants and expert reviewers determined that ongoing management would meet the needs of the species. In the following species list, we use an A to denote species for which a measurable objective is identified, a B for species for which some level of monitoring is recommended, a C for species for which a SMA is recommended, and a D for species for which species management is recommended. For species with no alphabetical superscripts, participants and reviewers agreed there is no need for measurable objectives, monitoring, Strategic Management Areas (SMAs), or species-specific management. Occasionally, statewide models indicate a species has potential habitat on the area, but the local assessment indicates there is little opportunity to manage for these species. These limited opportunity species are denoted with an *.
An inventory of bird species occurring on BRLWEA is not yet available. However, surveys of avifauna using standardized methods have been conducted nearby and indicate bird species likely to occur on the area (Table 10). Empirical on-site observations exist for a number of species including Bachman’s sparrow, brown-headed nuthatch, red-headed woodpecker, indigo bunting, mourning dove, brown thrasher, northern bobwhite and southeastern American kestrel.

The FWC has developed a GIS-based assessment tool that incorporates a wide variety of land cover and wildlife species data. This tool, the Integrated Wildlife Habitat Ranking System (IWHRS), ranks the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The IWHRS (2009) indicates that BRLWEA has a mean wildlife value of 6 (Figure 7).

2.3.1 Imperiled Species

For the purposes of this Management Plan, the term “Imperiled Species” refers to plant and animal species that are designated as Endangered, Threatened, or a Species of Special Concern by FWC, or that are designated as Endangered or Threatened by the U.S. Fish and Wildlife Service. This designation is also commonly known as “listed species.”

All abbreviations and status determinations were derived from Florida’s Endangered and Threatened Species published by FWC in January 2013. FWC maintains the state list of animals designated as Federally-designated Endangered or Threatened, State-designated
Threatened, or State-designated Species of Special Concern, in accordance with Rules 68A-27.003 and 68A-27.005, respectively, of the Florida Administrative Code https://www.flrules.org/.

On November 8, 2010, new threatened species rules approved by the FWC went into effect. All federally listed species that occur in Florida will now be included on Florida’s list as federally-designated Endangered or federally-designated Threatened species. In addition, the state has implemented a listing process to identify species that are not federally listed, but that may be at risk of extinction. These species will be called state-designated Threatened. All previous state-designated imperiled species were grandfathered on the list and are currently undergoing status reviews. The FWC will continue to maintain a separate Species of Special Concern category until all the former imperiled species have been reviewed and those species are either determined to be state-designated Threatened or removed from the list.

2.3.2 FWC Wildlife Observations and FNAI Element Occurrences

As previously mentioned, BRLWEA has a diverse assortment of plant and animal species (Tables 3 – 10). The FNAI element occurrence records include several threatened or endangered species and species of special concern (Table 6). As defined by FNAI, an “element” is any exemplary or rare component of the natural environment such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. Known locations of FNAI element occurrences from the most recent FNAI GIS databases are displayed in Figure 6.

Table 6. FNAI Element Occurrence – Listed Species

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>SCIENTIFIC NAME</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern indigo snake</td>
<td>Drymarchon couperi</td>
<td>FT</td>
</tr>
<tr>
<td>Gopher tortoise</td>
<td>Gopherus polyphemus</td>
<td>ST</td>
</tr>
<tr>
<td>Sherman's fox squirrel</td>
<td>Sciurus niger shermani</td>
<td>SSC</td>
</tr>
<tr>
<td>Southeastern American kestrel</td>
<td>Falco sparverius paulus</td>
<td>ST</td>
</tr>
<tr>
<td>Sandhill spiny-pod</td>
<td>Matelea pubiflora</td>
<td>SE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT</td>
<td>Federal Threatened</td>
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<tr>
<td>SE</td>
<td>State Endangered</td>
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<tr>
<td>ST</td>
<td>State Threatened</td>
</tr>
<tr>
<td>SSC</td>
<td>Species of Special Concern</td>
</tr>
</tbody>
</table>
Table 7. Focal Species Identified as having Potential Habitat on the BRLWEA

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>SCIENTIFIC NAME</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>American swallow-tailed kite</td>
<td>Elanoides forficatus</td>
<td>NL</td>
</tr>
<tr>
<td>Bachman’s sparrow</td>
<td>Peucaea [Aimophila] aestivalis</td>
<td>NL</td>
</tr>
<tr>
<td>Brown-headed nuthatch</td>
<td>Sitta pusilla</td>
<td>NL</td>
</tr>
<tr>
<td>Cooper’s hawk</td>
<td>Accipiter cooperii*</td>
<td>NL</td>
</tr>
<tr>
<td>Florida black bear</td>
<td>Ursus americanus floridanus*</td>
<td>NL</td>
</tr>
<tr>
<td>Florida mouse</td>
<td>Podomys floridanus A, B</td>
<td>SSC</td>
</tr>
<tr>
<td>Florida pine snake</td>
<td>Pituophis melanoleucus mugitus</td>
<td>SSC</td>
</tr>
<tr>
<td>Gopher tortoise</td>
<td>Gopherus polyphemus A, B</td>
<td>ST</td>
</tr>
<tr>
<td>Northern bobwhite</td>
<td>Colinus virginianus</td>
<td>NL</td>
</tr>
<tr>
<td>Sherman’s fox squirrel</td>
<td>Sciurus niger shermani</td>
<td>SSC</td>
</tr>
<tr>
<td>Southeastern American kestrel</td>
<td>Falco sparverius paulus A, B, D</td>
<td>ST</td>
</tr>
<tr>
<td>Southeastern myotis</td>
<td>Myotis austroriparius*</td>
<td>NL</td>
</tr>
<tr>
<td>Striped newt</td>
<td>Notophthalmus perstriatus*</td>
<td>NL</td>
</tr>
<tr>
<td>Wading birds</td>
<td>Multiple spp.*</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviation | Status       
---           |--------------|
| NL           | Not Listed   |
| ST           | State Threatened |
| SSC          | Species of Special Concern |

Superscript | Meaning |
---          |---------|
| A           | Species for which a measurable objective is identified |
| B           | Species for which some level of monitoring is recommended |
| C           | Species for which a SMA is recommended |
| D           | Species for which species management is recommended |
| *           | Limited opportunity species |

Table 8. Mammal Species of Greatest Conservation Need that Occur or are Likely to Occur on BRLWEA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern cottontail rabbit</td>
<td>Sylvilagus floridanus</td>
<td>NL</td>
</tr>
<tr>
<td>Sherman's fox squirrel</td>
<td>Sciurus niger shermani</td>
<td>SSC</td>
</tr>
<tr>
<td>Southeastern pocket gopher</td>
<td>Geomys pinetis pinetis</td>
<td>NL</td>
</tr>
<tr>
<td>Florida mouse</td>
<td>Podomys floridanus</td>
<td>SSC</td>
</tr>
<tr>
<td>Florida black bear</td>
<td>Ursus americanus floridanus</td>
<td>NL</td>
</tr>
<tr>
<td>Spotted skunk</td>
<td>Spilogale putorius</td>
<td>NL</td>
</tr>
</tbody>
</table>
### Table 9. Reptile and Amphibian Species of Greatest Conservation Need that Occur or are Likely to Occur on BRLWEA

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiger salamander</td>
<td>Ambystoma tigrinum</td>
<td>NL</td>
</tr>
<tr>
<td>Striped newt</td>
<td>Notophthalmus perstriatus</td>
<td>NL</td>
</tr>
<tr>
<td>Ornate chorus frog</td>
<td>Pseudacris ornata</td>
<td>NL</td>
</tr>
<tr>
<td>Gopher frog</td>
<td>Lithobates capito</td>
<td>NL</td>
</tr>
<tr>
<td>Florida box turtle</td>
<td>Terrapene carolina bauri</td>
<td>NL</td>
</tr>
<tr>
<td>Chicken turtle</td>
<td>Deirochelys reticularia</td>
<td>NL</td>
</tr>
<tr>
<td>Gopher tortoise</td>
<td>Gopherus polyphemus</td>
<td>ST</td>
</tr>
<tr>
<td>Florida scrub lizard</td>
<td>Sceloporus woodi</td>
<td>NL</td>
</tr>
<tr>
<td>Eastern hognose snake</td>
<td>Heterodon platirhinos</td>
<td>NL</td>
</tr>
<tr>
<td>Southern hognose snake</td>
<td>Heterodon simus</td>
<td>NL</td>
</tr>
<tr>
<td>Eastern indigo snake</td>
<td>Drymarchon couperi</td>
<td>FT</td>
</tr>
<tr>
<td>Florida pine snake</td>
<td>Pituophis melanoleucus mugitus</td>
<td>SSC</td>
</tr>
<tr>
<td>Mole kingsnake</td>
<td>Lampropeltis calligaster</td>
<td>NL</td>
</tr>
<tr>
<td>Short-tailed snake</td>
<td>Stilosoma extenuatum</td>
<td>ST</td>
</tr>
<tr>
<td>Eastern diamondback rattlesnake</td>
<td>Crotalus adamanteus</td>
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</tbody>
</table>

### Abbreviation

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Status</th>
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<tbody>
<tr>
<td>FT</td>
<td>Federal Threatened</td>
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<tr>
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</tr>
<tr>
<td>SSC</td>
<td>Species of Special Concern</td>
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</table>

### Table 10. Florida’s Breeding Bird Atlas Data for Gilchrist County

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green heron</td>
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<tr>
<td>Wood duck</td>
<td>Aix sponsa</td>
<td>NL</td>
</tr>
<tr>
<td>Swallow-tailed kite</td>
<td>Elanoides forficatus</td>
<td>NL</td>
</tr>
<tr>
<td>Mississippi kite</td>
<td>Ictinia mississippiensis</td>
<td>NL</td>
</tr>
<tr>
<td>Red-shouldered hawk</td>
<td>Buteo lineatus</td>
<td>NL</td>
</tr>
<tr>
<td>Red-tailed hawk</td>
<td>Buteo jamaicensis</td>
<td>NL</td>
</tr>
<tr>
<td>American kestrel</td>
<td>Falco sparverius</td>
<td>ST</td>
</tr>
<tr>
<td>Wild turkey</td>
<td>Meleagris gallopavo</td>
<td>NL</td>
</tr>
<tr>
<td>Northern bobwhite</td>
<td>Colinus virginianus</td>
<td>NL</td>
</tr>
<tr>
<td>Purple gallinule</td>
<td>Porphyrula martinica</td>
<td>NL</td>
</tr>
<tr>
<td>Killdeer</td>
<td>Charadrius vociferus</td>
<td>NL</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Rock dove</td>
<td>Columba livia</td>
<td>NL</td>
</tr>
<tr>
<td>Mourning dove</td>
<td>Zenaida macroura</td>
<td>NL</td>
</tr>
<tr>
<td>Common ground-dove</td>
<td>Columbina passerina</td>
<td>NL</td>
</tr>
<tr>
<td>Yellow-billed cuckoo</td>
<td>Coccyzus americanus</td>
<td>NL</td>
</tr>
<tr>
<td>Eastern screech-owl</td>
<td>Otus asio</td>
<td>NL</td>
</tr>
<tr>
<td>Great horned owl</td>
<td>Bubo virginianus</td>
<td>NL</td>
</tr>
<tr>
<td>Burrowing owl</td>
<td>Athene cunicularia</td>
<td>SSC</td>
</tr>
<tr>
<td>Barred owl</td>
<td>Strix varia</td>
<td>NL</td>
</tr>
<tr>
<td>Common nighthawk</td>
<td>Chordeiles minor</td>
<td>NL</td>
</tr>
<tr>
<td>Chuck-will's-widow</td>
<td>Caprimulgus carolinensis</td>
<td>NL</td>
</tr>
<tr>
<td>Chimney swift</td>
<td>Chaetura pelagica</td>
<td>NL</td>
</tr>
<tr>
<td>Ruby-throated hummingbird</td>
<td>Archilochus colubris</td>
<td>NL</td>
</tr>
<tr>
<td>Red-headed woodpecker</td>
<td>Melanerpes erythrocephalus</td>
<td>NL</td>
</tr>
<tr>
<td>Red-bellied woodpecker</td>
<td>Melanerpes carolinus</td>
<td>NL</td>
</tr>
<tr>
<td>Downy woodpecker</td>
<td>Picoides pubescens</td>
<td>NL</td>
</tr>
<tr>
<td>Northern flicker</td>
<td>Colaptes auratus</td>
<td>NL</td>
</tr>
<tr>
<td>Pileated woodpecker</td>
<td>Dryocopus pileatus</td>
<td>NL</td>
</tr>
<tr>
<td>Acadian flycatcher</td>
<td>Empidonax virescens</td>
<td>NL</td>
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Figure 7. BRLWEA IWHRS 2009
2.4 Native Landscapes

Native landscapes of BRLWEA include one identified natural community. The BRLWEA is a mature, second-growth, remnant example of the sandhill natural community type. It consists entirely of xeric uplands. BRLWEA exhibits typical dominant sandhill vegetation which includes a canopy and subcanopy of longleaf pine and turkey oak with the ground-cover dominated by wiregrass. The natural sandhill natural community is regarded as being in pristine condition and represents a benchmark example of Florida native habitat. A complete description of the sandhill community is provided in Section 2.2.1.

2.5 Water Resources

The aquifer systems in the area of BRLWEA in Gilchrist County consist of the surficial aquifer system, the intermediate confining unit and the Floridan aquifer system. The surficial aquifer system in Gilchrist County is unconfined and consists of unconsolidated clay and sand near the surface. The surficial aquifer is estimated to range from 45 to 80 ft in thickness. Below the surficial aquifer system, in areas where a sufficient thickness of clay exists, the intermediate confining unit is present and it acts as a confiner to the Floridan aquifer system below. Precipitation on BRLWEA rapidly replenishes underlying aquifers through excessively drained sands of rapid permeability. The Floridan aquifer system is comprised of limestone formations underlying the surficial aquifer where the intermediate confining unit does not exist. It is the principle source of drinking water in Gilchrist County. The Floridan aquifer system is semi-confined in the area of BRLWEA, where it receives moderate to high ground water recharge.

Surface water from most of BRLWEA flows northward and westward into the Cow Creek-Santa Fe River Watershed, which is part of the Suwannee River Basin. BRLWEA is also located within the sub-watershed catalogued as number 031102060701 in accordance with the 12-digit hydrologic unit code system. However, surface flows from the easternmost part of BRLWEA flow into the Newberry Drain Watershed, a closed (internally draining) hydrologic unit. Hydric soils and wetlands have not been indicated to occur on BRLWEA. Management of BRLWEA in a natural condition helps protect the ground water resource from pollutant sources. According to the DEP, Division of Water Resource Management, conservation of water is promoted by best management practices, wetland conservation, wastewater systems, education and minimizing polluted runoff. Surface water quality standards established by DEP include classifications and designated most beneficial uses, numeric and narrative criteria to support and protect those uses and an anti-degradation policy for protection of water quality.

The SRWMD also has jurisdictional authority governing the protection, use and monitoring of water resources within the Suwannee River Basin region in which BRLWEA is located. FWC cooperates with both the DEP and the SRWMD in their water monitoring, conservation and protection activities.
2.6 Beaches and Dunes

There are no known beaches or dunes within BRLWEA.

2.7 Mineral Resources

The geologic units present at the BRLWEA are listed in increasing age and depth: the undifferentiated Hawthorne Group, the Ocala Limestone and the Avon Park Formation. The major mineral resources of Gilchrist County which have been, or potentially could be, economically important are limestone and sand. A sand mine is located northeast of BRLWEA in the northeast corner of Gilchrist County. Limestone, sand and gravel are mined for use in construction and various other industrial purposes.

2.8 Cultural Resources

The Florida Department of State’s Division of Historical Resources (DHR) provides FWC recent data on occurrences of Florida’s cultural resources. Examination of the DHR records by GIS indicates no cultural sites described as occurring within or adjacent to BRLWEA; nor have field survey projects been reported to the DHR for this area. However, if DHR recommends an archaeological and historical survey as appropriate, a future survey project could yet indicate the presence of cultural resources.

2.9 Scenic Resources

Among the scenic resources at BRLWEA are the rolling sandhill topography, variably open and closed canopy of longleaf pine forest and deciduous oak forest, areas of uneven-aged longleaf pine stands and white sand trails passing through diverse habitat for native plants and animals. Little landscape appearance change should occur on BRLWEA as resource conservation programs are continued and implemented. Over time, the scenic resources of BRLWEA will respond to management of species, their habitats and other ecological composition.

3 Uses of the Property

3.1 Previous Use and Development

Prior to European settlement, the landscape of Florida, including this area of the peninsula, was settled and used by a variety of aboriginal peoples whose culture relied mainly on hunting, fishing and subsistence agriculture. Though some land alteration occurred, only minor alteration of the landscape is thought to have taken place until the advent of European settlement beginning with the Spanish occupation of Florida in the sixteenth century. Along with more advanced agricultural practices, the Spanish and other settlers brought live stock, primarily cattle and hogs, to Florida. This began an era of broad use of the landscape for agriculture.
Rangeland cattle grazing and other agricultural practices began to be utilized in a more systematic way and occurred through much of the central Florida peninsula throughout most of the European settlement era from the 16th through the 20th century. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn’t until the 19th and 20th century that major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development.

Historical development associated with the early settlement of the BRLWEA is similar to other early settlements in North-central Florida. Exploitation of timber resources and agricultural development were the main factors that opened the area to settlers.

Little intensive previous use of the BRLWEA is apparent. Historically and presently, adjacent and nearby properties are either forested or in agricultural use. Evidence of litter and cat faced trees are present on BRLWEA. The sandhill element occurrence record in the FNAI data layer is described as mature second growth. This indicates that there may have been periodic timber harvest, or clearing of BRLWEA associated with agricultural and other rural uses, many decades ago. Past livestock grazing may have occurred. By 1970, BRLWEA was apparently natural, second-growth sandhill with adjoining properties already in agricultural use or undeveloped. Some undeveloped areas were forested; timber had been removed from others. Several roads were in existence in the vicinity of BRLWEA.

### 3.2 Purpose for Acquisition of the Property

The Nature Conservancy (TNC) acquired the BRLWEA, previously known as the Davidson Ranch, in 1991 and managed it as a nature preserve. The Board of Trustees acquired BRLWEA from TNC in July of 2008, for the purpose of establishing, managing and conserving its lands as a Gopher Tortoise Mitigation Park with funds from the FWC Land Acquisition Trust Fund. The primary purpose of this acquisition was to help to ensure the survival of wildlife like the gopher tortoise and other associated wildlife resources. The FWC as lead manager will manage BRLWEA in accordance with the FWC’s statutory and administrative authority to conserve wildlife. Management goals will emphasize conservation of wildlife resources, under general guidance of the BRLWEA Management Plan and the FWC Strategic Plan (Appendix 12.4). FWC’s land management objectives for the BRLWEA are consistent with the acquisition purpose and management goals set forth under the FWC’s FWHAP.

### 3.3 Current Use of the Property

Currently, BRLWEA is managed for the conservation and protection of wildlife habitat and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on BRLWEA each year including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive exotic species maintenance and control; road repairs and maintenance; imperiled species management,
monitoring and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; archeological and historic resources monitoring and protection; and research related activities.

Current and anticipated resource uses of the property are diverse. The area offers excellent opportunities for bird watching, especially for Southeastern American kestrels. The pristine quality of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian and reptilian wildlife viewing. Other uses include hiking, photography, sightseeing, and environmental education.

Due to the proximity of population centers in Gilchrist County, public use can be expected to increase as public awareness of opportunities increases.

### 3.3.1 Visitation and Economic Benefits

Visitation and public use of the area for fish and wildlife based public outdoor recreational opportunities is the primary source of economic benefits from BRLWEA, and contribute to the overall economy for the north central region of Florida. Visitation on BRLWEA is low. If optimum visitor levels were obtained, based on the maximum carrying capacity of 12 people per day, a total of 2,190 visitors per year could be expected.

Further revenue generating potential of the BRLWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the BRLWEA might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term values of ecosystem services to local and regional land and water resources from air and water quality functions of the area, among others, and to human health, are considered to be significant.

### 3.4 Single- or Multiple-use Management

BRLWEA will be managed under the multiple-use concept as a Wildlife and Environmental Area. BRLWEA will provide fish and wildlife resource-based public outdoor recreation and educational opportunities, while protecting the natural and cultural resources found on the area. Any natural and cultural resources of BRLWEA will be managed as outlined in the original purposes for acquisition under the guidance of ARC, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

### 3.4.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on BRLWEA. Uses classified as “Approved” are considered to be in accordance with the purposes for acquisition, as well as with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals and objectives as expressed in
the Agency Strategic Plan (Appendix 12.4). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as “Rejected” are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management:

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3.4.2 Assessment of Impact of Planned Uses of the Property

To communicate FWC’s planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for BRLWEA (Sections 5 -8). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and cultural resources was an integral part of the development of the management activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.
3.5 Acreage That Should Be Declared Surplus

On conservation lands where FWC is the lead manager, FWC evaluates and identifies recommended areas for a potential surplus designation by DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, and review of resource and operational management needs. Also, FWC considers recommendations for surplus lands as they relate to Florida’s “No Net Loss of Hunting Lands” legislation (Ch. 379.3001 F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

The evaluation of BRLWEA by FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition, and remain integral to the continued conservation of important fish and wildlife resources, and continue to provide good fish and wildlife resource based public outdoor recreational opportunities. Therefore, no portion of the BRLWEA should be considered or declared surplus.

4 Interim Management Activities

Since acquisition of the BRLWEA, FWC has undertaken a number of management activities. Initially, FWC has established site security, posted boundaries, provided public access, implemented fire management, conducted resource inventories, surveyed for exotic species control and removed refuse. Long-range plans will stress ecosystem management and the protection and management of Threatened and Endangered species. Current and historic analysis and mapping of natural communities was conducted.

Additionally, a Timber Assessment, Wildlife Conservation and Prioritization Recovery Strategy, Arthropod Control Plan and Prescribed Burning Plan have been developed for BRLWEA. The FWC shall continue to assess the condition of wildlife resources and provide planning support to enhance management of focal species and recovery of imperiled species on BRLWEA. Use of prescribed fire and other resource management activities shall maintain natural communities and vegetation types to benefit native wildlife resources.

Programs providing multiple recreational uses have been implemented. These public outdoor wildlife-based recreational uses will enhance the public’s understanding of BRLWEA while providing public enjoyment of outdoor recreational opportunities. Interpretive kiosks, signage, a picnic shelter and trail have been developed for the area, not yet constructed, to facilitate public access and recreational uses at BRLWEA. Additionally, BRLWEA has an established parking area with kiosk on the SW corner of the property. There are two area signs installed, a primary area sign on CR 337 and a secondary sign near the parking lot on the SW corner.
To address the management goal of habitat restoration and improvement, FWC has contracted with the FNAI to identify and map the current natural community type. FWC area biologists, along FNAI, conducted a rare plant and animal survey. To address habitat maintenance needs and to help achieve desired future conditions in native plant communities, FWC continues to conduct natural community restoration activities. All of BRLWEA is in a maintenance condition.

Among the continuing resource management activities that have been accomplished on the area to improve the existing sandhill natural community, mechanical and herbicide treatments were used. Chainsaw crews were used to reduce the small oak mid-story in the sandhill habitat. An additional 65 acres (26 hectares) of small oaks were treated with Velpar-L herbicide. The chainsaw and herbicide work to control small oaks took place during May & June of 2009. A total of 632 acres were treated mechanically, and 66 acres were treated only with Velpar-L. A 22 acre control block was not treated and was left to be managed only with Rx Fire.

FWC has contracted for, and completed, the survey and mapping of invasive exotic plant species, and began “in-house” treatment of those occurrences. FNAI found and documented only two occurrences of Florida Exotic Pest Plant Council (FLEPPC) Category I and II exotic invasive plant species throughout the area. Specifically, a single mimosa tree and a single camphor tree were noted. Both of these occurrences were eradicated in 2010. No other occurrences have been observed and the area has had two hot prescribed fires since the initial control. Area staff remains vigilant to locate and eradicate any future invasive exotics that may be found.

FWC has instituted an aggressive prescribed burning program on BRLWEA where 100% of the area is burned every one to three years. Burning is conducted during the growing seasons with emphasis on early spring burning that improves brood habitat for game birds and avoids negative impacts on nests while still meeting burn objectives.

In conjunction with the maintenance of current burn units, existing firebreaks are maintained around the perimeters where applicable. An existing 5 mile boundary fire break and an additional 6 miles of interior roads are maintained around the perimeters by mowing. Approximately 11 miles of roads are open for foot traffic and are maintained annually by mowing and by conducting spot repairs to any washouts or pot holes.

The FWC may coordinate with DEP and SRWMD on appropriate water regulation schedules for BRLWEA if deemed applicable, and will continue to encourage water regulation schedules that promote the protection of hydrological resources and enhance wildlife.
5 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve or otherwise use fragile natural resources and nonrenewable cultural resources. In general, the FWC management intent for BRLWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially wildlife resources. In conjunction with this primary emphasis, it is FWC’s intent to provide quality wildlife resource based public outdoor recreational opportunities on BRLWEA. FWC will utilize the best available data, guidelines, natural resource management practices, and recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

Pursuant to Chapter 259.036, F.S., the DEP-DSL is required to “cause periodic management reviews to be conducted” on Board of Trustees conservation lands to determine if they “are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032.”

Since BRLWEA is a more recently acquired property, a LMR has yet to be completed for this area. Upon completion of a LMR for BRLWEA, FWC will incorporate it into the BRLWEA Management Plan.

5.2 Adaptive Management

Adaptive management is "learning by doing"; it is the adjustment or modification of conservation actions to achieve a desired conservation goal. In practice, adaptive management is a rigorous process that includes sound planning and experimental design with a systematic evaluation process that links monitoring to management. Adaptive management requires flexibility for implementation, but should be fitted over a fundamentally sound, well-planned design.

An adaptive management process produces the strongest inference and most reliable results when experimental design components are incorporated into the monitoring process. Adaptive management is most rigorously applied in an active format when components of experimental design (i.e., controls, replication, and randomization) are included in the monitoring process. Incorporating valid statistical analyses of results will further enhance the value of the adaptive management process. However, in some situations, rigorous experimental design procedures can be relaxed without invalidating monitoring results. In a passive format, adaptive management can involve applying a conservation action at a site, observing the results and adjusting the action in the future if warranted.
Proposed adaptive management, monitoring and performance measures are developed through literature reviews and FWC staff meetings. Overall, a results-based approach is incorporated into this Management Plan, for which effective monitoring is an integral component. FWC will monitor conservation actions, species, habitats, and major threats to the conservation of the natural and cultural resources of BRLWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of BRLWEA. Monitoring and performance measures are important, but often overlooked elements of conservation planning. Monitoring provides the critical link between implementing conservation actions and revising management goals.

Monitoring is the systematic, repeated measurement of environmental characteristics to detect changes, and particularly trends, in those characteristics. Monitoring provides essential feedback, the data needed to understand the costs, benefits, and effectiveness of planned conservation actions and the management projects undertaken to address them.2

For natural communities, monitoring protocols are established through FWC’s Objective-Based Vegetation Management (OBVM, Section 5.5.1) program, which monitors how specific vegetative parameters are responding to FWC management. For imperiled and focal fish and wildlife species, monitoring protocols are established through FWC’s Wildlife Conservation Prioritization and Recovery (WCPR, Section 5.6.2) program. Additional select common and game fish and wildlife species may be monitored by FWC staff as appropriate. Exotic and invasive plant and animal species (Section 5.7) are also monitored as needed and appropriate. Recreational uses are monitored through FWC’s Public Access and Wildlife Viewing program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.8.3). Cultural and historical resources (Section 5.11) are monitored with guidance from the Florida Department of State’s DHR.

5.2.2 Performance Measures

Performance measures include qualitative or quantitative measures used to provide an estimate or index of the characteristic of interest, and to chart the overall progress of conservation actions towards specific goals. Successful monitoring programs and their associated performance measures provide natural resource professionals with valuable feedback on the effectiveness of conservation actions and make it possible to implement a more flexible adaptive management approach. An adaptive management approach ultimately will be more efficient and effective when it tracks inputs, incorporates an effective monitoring program that integrates performance measures, and evaluates results against desired goals.
5.2.3 Implementation

The BRLWEA Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs (OBVM, WCPR, Public Access and Wildlife Viewing, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of BRLWEA, and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

5.3 Habitat Restoration and Improvement

On BRLWEA, FWC will focus on managing for native habitat diversity and emphasizing maintenance of high-quality natural communities. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. BRLWEA has high-quality mature upland sandhill communities that FWC will continue to manage and protect. For this reason, no habitat restoration is needed or planned on the area since it is composed entirely of a benchmark, intact sandhill longleaf wiregrass ecosystem.

The Florida Natural Areas Inventory (FNAI) has conducted surveys and mapped the current vegetative communities and historic vegetation communities on BRLWEA. This information will be used to guide and prioritize management and restoration efforts on the area.

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida’s natural communities is the foundation of this management philosophy. FWC uses OBVM to monitor how specific vegetative parameters are responding to FWC management. OBVM includes the delineation of management units and quantification of the desired future condition for the natural community.

The first step in implementing OBVM is to map the current and historic natural communities on the managed area using the FNAI Natural Community Classification. FWC contracts with FNAI to provide these mapping services. A natural community, as defined by FNAI, is a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment.
After natural communities have been mapped, management units are delineated. Delineating management units takes into account the distribution and extent of the current and/or historic mapped natural communities, existing and proposed infrastructure, and other management considerations. FWC land managers then identify the predominant current or historic natural community within each management unit that guides the type and frequency of management activities that should be applied.

At the same time, measurable habitat management objectives referred to as ‘desired future conditions’ are established for predominate natural communities identified for management units. Desired future conditions are defined by desirable ranges for vegetation structural attributes such as canopy cover, shrub height and cover, and ground cover.

Vegetation monitoring samples the selected parameters with the results being compared to the established desired future conditions. All monitoring performed under OBVM is completed using the program’s Vegetation Monitoring Standard Operating Procedures (May 2007).

Initial mapping and vegetation sampling provides FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the subsequent monitoring results to desired future conditions, provides key operational information on a management unit’s vegetation structural status at a given point in time and trend over time. Using this information, managers can evaluate, adjust and modify their management practices to meet the stated objectives.

5.3.2 Prescribed Fire and Fire Management

Historically, in Florida, periodic spring and summer fires occurred in fire-adapted communities under natural conditions. Plant species composition reflects the frequency and intensity of these fires. In the absence of fire, fallow fields on former longleaf sites follow a successional pattern through mixed pine-hardwood forests to an exclusively hardwood community rather than to the original plant community. The plant species composition may differ slightly on poorer soils of the slash pine flatwoods, but the dominant role of fire in controlling hardwoods is equally important in either ecosystem.

The FWC employs a fire management regime to increase both species and habitat diversity and will continue a prescribed burning program on the BRLWEA in accordance with vegetative management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads usually burn at a lower intensity. Employing a burning program with different burning frequencies, intensities and seasonality (dormant season vs. growing season) of prescribed burns create habitat diversity and a mosaic of vegetation patterns. This mosaic is designed to have both frequently burned and infrequently burned aspects.
BRLWEA has been maintained by a sandhill appropriate fire interval. Whenever possible, existing firebreaks such as roads and trails will be used to define burning compartments. Disk harrows, mowing and foam lines will be used as necessary to minimize disturbance and damage created by fire plows.

Single drum (with standard, not offset blades), one-pass roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, its application will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means. Although FWC employs this important management technique when necessary to restore and maintain habitats, none is needed or planned at BRLWEA because the entire area is composed of an intact sandhill community.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to define burning compartments. Disk harrows, mowing, and foam lines will be used as necessary to minimize disturbance and damage created by fire plows.

The transitional areas between two adjacent but different vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Ecotone transitional zones represent less management challenges for prescribed fire on BRLWEA than is often present on other conservation lands because the area is composed of a single vegetative cover type. Silvicultural site preparation and creation of firebreaks are avoided when possible. Fuel loads have been maintained and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval that averages 1-3 years, preferably during the spring and early summer months.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan has been developed and implemented for BRLWEA (Appendix 12.5). This plan includes, but not be limited to, delineation of burn management units,
detailed descriptions of prescribed fire methodology, safety and smoke management guidelines.

5.3.3 Habitat Restoration

As noted above, on BRLWEA, FWC will continue to focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. BRLWEA is comprised of high-quality native upland Sandhill that FWC will continue to manage and protect. Since BRLWEA is composed entirely of intact sandhill longleaf wiregrass ecosystem habitat and does not contain any disturbed areas of habitat, unlike many other areas, no habitat restoration activities are necessary. However, in conjunction with the OBVM activities described in Section 5.3.1, FWC will implement habitat improvement activities as needed.

5.3.4 Apiaries

Currently, there are no apiaries operating on BRLWEA. However, use of apiaries is conditionally approved for BRLWEA, and is deemed to be consistent with purposes for acquisition, is in compliance with the Conceptual State Lands Management Plan, and is consistent with the FWC agency mission, goals, and objectives as expressed in the agency Strategic Plan and priorities document (Appendix 12.4). Location, management, and administration of apiaries on BRLWEA will be guided by the FWC Apiary Policy (Appendix 12.5).

5.4 Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

5.4.1 Fish and Wildlife

Due to the pristine quality of the mature upland sandhill community, a diversity of associated wildlife, including rare and imperiled species, common game and non-game species can be found on BRLWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection, and management of natural communities.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. Following species inventory work, management practices are designed to restore, enhance or maintain imperiled species and their habitats.
The size and habitat quality of the BRLWEA creates a unique habitat for a variety of wildlife species. Resident wildlife will be managed for optimum diversity and abundance. In addition to resident wildlife, BRLWEA provides resources critical to many migratory birds including passerines, raptors, shorebirds and others. Habitats important to migratory species will be protected, maintained or enhanced. FWC will continue to update inventories for certain species, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

Rare and imperiled species and their habitats will be protected and restored by following approved Federal and FWC recovery plans, guidelines, and other applicable scientific recommendations. Land management activities including prescribed burning, and timber stand improvements will take into account imperiled species requirements and habitat needs. Potential for negative impacts from recreational activities will also be considered and monitored.

FWC intends to manage game populations on a sustained-yield basis to assure healthy game populations and a high-quality recreational experience. However, hunting is prohibited on BRLWEA due to the small size and characteristics of the site. An evaluation of the hunting opportunities offered on BRLWEA is performed by FWC annually.

5.4.2 Imperiled Species - Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on FWC-managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida’s natural communities is the foundation of this management philosophy. The FWC uses OBVM to monitor how specific vegetative parameters are responding to FWC management, and uses the WCPR program to ensure management is having the desired effect on wildlife.

The goal of WCPR is to provide assessment, recovery, and planning support for the FWC-managed areas to enhance management of focal species and the recovery of imperiled species. WCPR program objectives include prioritizing what FWC does for imperiled and focal species on FWC-managed areas; ensuring the actions taken on these areas are part of statewide conservation programs and priorities; and informing others about the work accomplished on lands FWC manages.

The WCPR program helps FWC take a proactive, science-based approach to species management on FWC-managed lands. This approach assesses information from statewide potential habitat models and Population Viability Analysis, and in conjunction with input from species experts and people with knowledge of the area, creates site-specific wildlife assessments for imperiled wildlife species and a select suite of focal species. Staff combines
these assessments with area-specific management considerations to develop a wildlife management strategy for the area. Each strategy contains area-specific measurable objectives for managing priority species and their habitat, prescribes management actions to achieve these objectives, and establishes monitoring protocols to verify progress towards meeting the objectives. The FWC intends for the strategy to promote the presence of, and ensure the persistence of imperiled wildlife and select focal species on the area by providing FWC managers with information on actions they should take (provided the necessary resources are available).

In summary, for FWC-managed areas, the WCPR program helps assess imperiled and focal wildlife species needs and opportunities, prioritize what FWC does for imperiled and focal species, prescribe management actions to aid in species recovery, prescribe monitoring protocols to allow evaluation of the species’ response to management, and ensure the information is shared with others. Through the actions of this program, FWC will facilitate fulfilling the needs of focal and imperiled wildlife species on BRLWEA. In the long-term, by implementing these strategies on FWC-managed lands and continuing to assess wildlife species’ needs, FWC will continue to play an integral role in aiding the recovery of imperiled species and preventing the future imperilment of declining wildlife species.

5.5 Exotic and Invasive Species Maintenance and Control

The FWC will continue efforts to control the establishment and spread of FLEPPC Category I or II plants on BRLWEA. Control technologies may include mechanical, chemical, biological, and other appropriate treatments. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ the Best Management Practices for their application.

5.6 Public Access and Recreational Opportunities

5.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA where:

1. Compliance will cause harm to cultural or historic sites, or significant natural features and their characteristics.

2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.
3. Compliance would not be feasible due to terrain or prevailing construction practices.

4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for BRLWEA. To accomplish this, FWC has worked with recreational stakeholders and the general public to develop a Recreation Master Plan for BRLWEA that will be used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. A Recreation Master Plan has been completed for BRLWEA and is attached as Appendix 12.7. This Recreation Master Plan includes planning for parking, trail design, and area resource interpretation.

5.6.3 Public Access Carrying Capacity

Baseline carrying capacities for users on FWC-managed lands are established by conducting a site specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being “immersed in nature” that visitors to FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated though this process are used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife resource based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities, and the anticipated proportional visitation levels of the various user groups, FWC has determined that BRLWEA can support 12 visitors per day. However, an objective to increase the carrying capacity to 43 visitors per day has been proposed in Section 6.4.2 of this Management Plan. This public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated as part of the Recreation Master Plan development and implementation process.

5.6.4 Wildlife Viewing

The BRLWEA affords a wide variety of native wildlife species, both resident and seasonally migratory, that are available for visitors’ enjoyment for observation and photography. The quality of habitat found on BRLWEA attracts a suite of wildlife species including various birds, mammals, reptile and amphibians throughout BRLWEA. Consequently, the area provides quality wildlife viewing opportunities.
5.6.5 **Hunting**

As previously noted, hunting is prohibited on BRLWEA due to the small size and characteristics of the site. An evaluation of the hunting opportunities offered on BRLWEA is performed by FWC annually.

5.6.6 **Fishing**

No water features exist within the established boundary of BRLWEA. Therefore no fishing opportunities exist.

5.6.7 **Boating**

No water features exist within the established boundary of BRLWEA. Therefore no boating opportunities exist.

5.6.8 **Trails**

At this time, there are no designated trails on BRLWEA. The FWC anticipates developing an approximately two mile loop trail as stated in Section 6.8.3. The FWC will continue to periodically reevaluate the potential for trail connectivity to other conservation areas and will monitor trails for user impacts to natural communities. Essential roads will be stabilized to provide all weather public access and management operations. Unnecessary roads, fire lanes, and hydrological disturbances will be abandoned or restored as practical. Infrastructure development shall be as necessary to allow public access and to provide facilities, security, and management of the property.

5.6.8.1 **Hiking**

As noted above, at this time, there are no designated hiking trails on BRLWEA. The FWC anticipates developing an approximately two mile loop trail as stated in Section 6.8.3. The FWC will continue to periodically reevaluate the potential for trail connectivity to other conservation areas and will monitor trails for user impacts to natural communities. Essential roads will be stabilized to provide and encourage all weather public access and management operations. Infrastructure development shall be as necessary to allow public access and to provide facilities, security, and management of the property.

5.6.8.2 **Bicycling**

Bicycling is prohibited as it is not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management.

5.6.8.3 **Equestrian**

Horseback riding is prohibited on BRLWEA. The small size, limited facilities and natural conditions present at BRLWEA are not conducive to equestrian use. The FWC will explore
providing information to visitors regarding horseback riding opportunities on surrounding conservation and/or private property.

5.6.9 Camping

Camping is prohibited on BRLWEA. Camping on BRLWEA is infeasible due to the low carrying capacity, small size of the area and natural vegetative conditions present on BRLWEA. However, there are a number of public and private camping areas in the general region that provide many diverse camping opportunities.

5.6.10 Geocaching

Geocaching, also known as Geographic Positioning System (GPS) Stash Hunt or GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS receiver unit. Geocache websites routinely promote good stewardship. However, the potential exists for resource damage, user conflicts, or safety issues caused by inappropriately placed caches and/or links that do not provide adequate information about the area.

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts, or threats to the safety of the activity participants. The placement of geocaches on FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following FWC website: http://myfwc.com/media/1074886/FWC_Geocache.Guidelines.pdf.

5.6.11 Astronomy

Many of the open areas of BRLWEA provide for a broad view of the nighttime sky and afford a relatively low level of nighttime light pollution. These conditions are conducive to the viewing of stars, planets, comets and other celestial bodies. However, night time visitation to conduct astronomical viewing requires a Special Use permit from FWC. To apply for a Special Use Permits applicants can contact the FWC Regional Office in Lake City.

5.6.12 Environmental Education

No formal structured environmental education program exists on BRLWEA. However, environmental education is an approved activity. FWC will continue to assess the need for and participate and encourage environmental education partnership opportunities as appropriate.

5.6.12.1 Interpretation

Interpretive signage and resource interpretation materials are provided at the main entrance. Additional interpretive materials including a website, trail guide and bird list for BRLWEA will be developed.
5.7 Hydrological Preservation and Restoration

5.7.1 Hydrological Assessment

A hydrological assessment for BRLWEA will be conducted if determined necessary. Pursuant to the recommendations of the hydrological assessment, FWC will implement hydrological restoration as feasible and appropriate.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of BRLWEA was conducted by the Florida Forest Service, in October 2011. The management of timber resources will be considered in the context of the Timber Assessment and the overall land management goals and activities.

Timber resources include some pine plantations in need of thinning for habitat improvement. Thinning of the forest over-story, hydrological restoration and reintroduction of prescribed burning are the most important factors in re-establishment of natural communities and the enhancement of wildlife habitats in these areas. Upland pine forest planted with off-site pines will be reforested with longleaf pine or other on-site species as appropriate. Degraded or disturbed bottomland hardwood sites will be encouraged to reforest naturally with native wetland oaks, hardwoods, and other appropriate native plant species.

Pursuant to OBVM management goals, FWC will continue to manage timber resources for wildlife benefits and natural community restoration. Management activities including the use of timber thinning and harvesting may be utilized. The primary management technique for encouraging reforestation is protection of young trees and seedlings on these sites from damage. However, where natural regeneration is lacking, artificial reforestation may be implemented. Planting trees on these selected sites is used to increase the rate of reforestation and to ensure diversity. Forested wetlands are managed for stands with old growth characteristics. Snags will be protected to benefit cavity-nesting species.

5.8.1 Timber Management Plan

As noted above, the most recent timber assessment completed for BRLWEA was performed by the FFS in 2011. This assessment provided specific management prescriptions for the entire BRLWEA. BRLWEA is a unique property and well suited for its intended purpose. Through regularly scheduled and properly timed burns, conditions for ground cover plants will improve as well as the overall health and long-term sustainability of the longleaf pine. Appendix 12.6 contains more details of the recommended management actions. The FWC will work with the FFS or a professional forestry consultant to develop and implement a Timber Harvest Plan consistent with OBVM and WCPR objectives for the area.
5.9 Cultural and Historical Resources

The FWC will follow procedures outlined by DHR to locate any features on the area. FWC will contact professionals from DHR for assistance prior to any ground-disturbing activity on the BRLWEA.

The FWC will monitor any future documented sites and submit updates of any located sites to DHR for inclusion in their Master Site file. In addition, FWC will ensure management staff has DHR Archaeological Resources Monitoring training. Furthermore, FWC will refer to and follow DHR’s Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (Appendix 12.10) for management of these resources, and prior to any facility development, or ground disturbing activities.

5.10 Capital Facilities and Infrastructure

FWC’s land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities, and provide ample opportunities for fish and wildlife resource based public outdoor recreation. For these reasons, planned capital facilities and infrastructure will focus on improving access, recreational potential, hydrology, or other resource and operational management objectives.

Current capital facilities and infrastructure on BRLWEA include 11.5 miles of interior roads and one parking area facility.

As described in Section 5.6.1 of this Management Plan, for any public facilities that are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

5.11 Land Conservation and Stewardship Partnerships

The FWC utilizes a three-tiered approach to identifying, acquiring or otherwise protecting important conservation lands adjacent to or in proximity to existing FWC-managed areas. This involves development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB) and associated Conservation Action Strategy (CAS). Increasingly, cooperative land steward partnership efforts with private landowners plays an integral role in this effort as does ongoing land conservation, either through fee-simple or less-than-fee conservation easements. In combination, this tiered model helps FWC to further the regional conservation of important fish and wildlife habitats through a proactive, comprehensive, and cooperative approach towards conservation.
5.11.1 Optimal Resource Boundary

This three tiered model begins with the development of an ORB, which is a resource-based analysis on a regional scale that integrates important FWC conservation research and analysis into practical planning, acquisition, and management efforts through GIS analysis. The ORB focuses on critical and important wildlife species or habitat considerations such as rare and imperiled species habitat within a particular region or ecosystem-like area on a landscape scale within which an FWC managed area is contained while eliminating urban areas or lands that have already been conserved or protected.

5.11.2 Optimal Conservation Planning Boundary

The second tier is known as the OCPB. The OCPB combines the regional natural resources identified in the ORB, as well as regional and local area conservation planning, including habitat conservation and restoration, habitat linkages, management challenges, land use and zoning issues, infrastructure including roads and developments, improving access, eliminating inholdings, providing prescribed burn buffers, resolving boundary irregularities, water resource protection, and conserving other important natural and cultural resources. The draft OCPB for BRLWEA is shown in Figure 8.

The OCPB provides the basis for development of a broader CAS for BRLWEA. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region. As they are currently managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS is the third tier, and implements the results of the ORB and OCPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy that prioritizes conservation needs. The CAS is integral to the development of conservation stewardship partnerships and also implements the current approved process for establishing the FWC Florida Forever Inholdings and Additions acquisition list.

Primary components of the CAS may include:

- FWC Landowner Assistance Program
- FWC conservation planning
- FWC Additions and Inholdings Program Land Conservation Work Plan
- Forest Stewardship Program proposals
- Florida Forever project proposals and boundary modifications
- Conservation easements
- Federal or State grant conservation proposals
- Regional or local conservation proposals
- Local, state, and federal planning proposals
- Non-governmental organization conservation proposals

Continued conservation of these lands may be aided by available voluntary landowner stewardship programs, conservation easements, and in some cases, potential voluntary conservation acquisitions. Participation in any FWC conservation effort is entirely voluntary and at the sole choice of willing landowners.

Private landowners seeking assistance with habitat management will likely find it offered within FWC’s Landowner Assistance Program (LAP). The FWC employs biologists who are available to provide wildlife-related assistance with land-use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. More information on FWC’s LAP program and online habitat management tools are available online at: [http://myfwc.com/conservation/special-initiatives/lap/](http://myfwc.com/conservation/special-initiatives/lap/).

### 5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, FWC has not identified any potential additions or privately held inholdings for BRLWEA. However, 3,384 acres of the Longleaf Pine Ecosystem Florida Forever project remain to be acquired. Upon completion of the CAS, additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended.

### 5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For BRLWEA, the FWC will continue to assess and identify research needs, and pursue research and environmental education partnership opportunities as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on BRLWEA must have prior approval by FWC.

### 5.13 Climate Change

Because of Florida’s unique ecology and topography, any potential impacts as a result of climate change may be particularly acute and affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat may already be occurring, from eroding shorelines and coral bleaching to increases in forest fires and saltwater intrusion into inland freshwater wetlands.
The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is likely proceeding at a rate where there will be unavoidable impacts to humans, wildlife, and habitat. Given current levels of heat-trapping greenhouse gas emissions, shifts in local, regional, and national climate patterns including changes in precipitation, temperature, increased frequency and intensity of extreme weather events, rising sea levels, tidal fluctuations, and ocean acidification are projected. The current trend of global temperature increase has appeared to accelerate in recent decades, and continued greenhouse gas emissions may result in projected global average increases of 2 – 11.5° F by the end of the century.5

This apparent change in global climate has the potential to disrupt natural processes; in some areas, climate change may cause significant degradation of ecosystems that provide services such as clean and abundant water, sustainable natural resources, protection from flooding, as well as hunting, fishing and other recreational opportunities. Consequently, climate change is a challenge not only because of its likely direct effects, but also because of its potential to amplify the stress on ecosystems, habitats, and species from existing threats such as exponential increases in surface and ground water use, habitat loss due to increased urbanization, introduction of invasive species, and fire suppression.

Potential impacts that may be occurring as a result of climate change include: change in the timing of biological processes, such as flowering, breeding, hibernation, and migration;6, 7, 8 more frequent invasions and outbreaks of exotic invasive species;9 and loss of habitat in coastal areas due to sea level rise.10 Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.11 A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the potential effects of climate change on Florida’s conservation lands are just beginning to be studied and are not yet well understood. For example, FWC has begun a process for currently developing climate change adaptation strategies for monitoring, evaluating, and determining what specific actions, if any, may be recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of exotic and invasive species. Currently, FWC is continuing its work on the development of these potential adaptation strategies. However, as noted above, the effects of climate change may become more frequent and severe within the time period covered by this Management Plan.

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that FWC can take are to work with partners to gather the best
scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. To this end, when appropriate, FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change; especially sea level rise and storm events, on imperiled species and their habitats on FWC managed land.

To address the potential impacts of climate change on the BRLWEA, Goals and Objectives have been developed as a component of this Management Plan (Section 6.10). Depending on the recommendations of the adaptive management strategies described above, additional specific goals and objectives to mitigate potential climate change impacts may be developed for the BRLWEA Management Plan in the future.

5.14 Soil and Water Conservation

Soil disturbing activities will be confined to areas that have the least likelihood of experiencing erosion challenges. On areas that have been disturbed prior to acquisition, an assessment will be made to determine if soil erosion is occurring, and if so, appropriate measures will be implemented to stop or control the effects of this erosion.

5.15 Cooperating Agencies

The FWC is responsible for the overall management and operation of BRLWEA as set forth in the lease agreement with the Board of Trustees. In keeping with the lease agreement, and in order to conduct its management operations in the most effective manner, the FWC cooperates with other agencies to achieve management goals and objectives. These include cooperating with DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources document (Appendix 12.10) are followed with regard to any ground-disturbing activities. In addition, the FFS is a designated cooperating agency, and assists FWC by providing technical assistance on forest resource management. Also, the FWC cooperates and consults with the BRLWEA Water Management District for the monitoring and management of both ground and surface water resources and the overall management of BRLWEA.
Figure 8. Optimal Conservation Planning Boundary
6 Resource Management Goals and Objectives

The management goals described in this section are considered broad, enduring statements designed to guide the general direction of management actions to be conducted in order to achieve an overall desired future outcome for BRLWEA. The objectives listed within each management goal offer more specific management guidance and measures, and are considered the necessary steps to be completed to accomplish the management goals. Many of the objectives listed have specific end-of-the-calendar-year target dates for completion and all of them are classified as having either short-term (less than two years) or long-term (up to ten years) timelines for completion.

6.1 Habitat Restoration and Improvement
Goal: Improve extant habitat and restore disturbed areas.

Short-term

6.1.1 Prescribe burn 240 acres per year, as needed.
6.1.2 Maintain 480 acres (67%) per year within 1 - 3 year target fire return interval.
6.1.3 Implement the Prescribed Burn Plan.
6.1.4 Develop and implement OBVM.

Long-term

6.1.5 Continue to prescribe burn 240 acres per year.
6.1.6 Continue to maintain 720 acres (100%) within target fire return interval (1 - 3 years).
6.1.7 Continue implementation of OBVM.
6.1.8 Continue to conduct habitat/natural community improvement, including removal of undesirable densities of hardwoods as needed, on 0 - 720 acres per year.

6.2 Imperiled Species Habitat Maintenance, Enhancement, Restoration or Population Restoration
Goal: Maintain, improve or restore imperiled species populations and habitats.

Short-term

6.2.1 Implement a WCPR strategy.
6.2.2 Continue to collect opportunistic wildlife species occurrence data.
6.2.3 Monitor four kestrel nest boxes per year.

Long-term

6.2.4 Continue to implement WCPR strategy by managing identified habitats and monitoring identified species.
6.2.5 Conduct gopher tortoise surveys every five years.
6.2.6 Continue to collect opportunistic imperiled wildlife species occurrence data including eastern indigo snake and Sherman’s fox squirrel.

6.2.7 Conduct small mammal survey.

6.3 **Exotic and Invasive Species Maintenance and Control**

*Goal: Remove exotic and invasive plants and animals and conduct needed maintenance- control.*

**Short-term**

6.3.1 Annually treat at least 0 - 1 acres of FLEPPC Category I and Category II invasive exotic plant species, or as needed.

6.3.2 Implement control measures on one exotic and nuisance animal species (wild hog), as needed.

**Long-term**

6.3.3 Continue to annually treat at least 0 - 1 acres of FLEPPC Category I and Category II invasive exotic plant species, or as needed.

6.3.4 Continue to implement control measures on one exotic and nuisance animal species (wild hog), or as needed.

6.4 **Public Access and Recreational Opportunities**

*Goal: Provide public access and recreational opportunities.*

**Short-term**

6.4.1 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 12 visitors per day.

6.4.2 Develop additional public access and recreational opportunities to allow for a carrying capacity of 43 visitors per day.

6.4.3 Continue to provide a one panel kiosk for interpretation and education.

6.4.4 Develop website, trail guide and bird list for interpretation and education.

6.4.5 Install two picnic tables.

6.4.6 Maintain/design/develop approximately two miles of trails.

6.4.7 Construct new interpretive signage.

**Long-term**

6.4.8 Implement the Recreation Master Plan.

6.4.9 Monitor trails biannually for visitor impacts.

6.4.10 Reassess recreational opportunities every three years.

6.4.11 Cooperate with other agencies, County, stakeholders and regional landowners to investigate regional recreational opportunities including linking hiking and multi-use trail systems between adjacent public areas.
6.4.12 Continue to identify partnerships that could provide for environmental educational programs and outreach.

6.5 Hydrological Preservation and Restoration

Goal: Protect water quality and quantity, restore hydrology to the extent feasible and maintain the restored condition.

Long-term

6.5.1 Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs.

6.5.2 Continue to maintain or restore natural hydrological condition and functions to the area as feasible and appropriate.

6.6 Forest Resource Management

Goal: Manage timber resources to improve or restore natural communities for the benefit of wildlife.

Short-term

6.6.1 Continue to consult with the FFS or a professional forestry consultant regarding implementation of forest management activities as appropriate.

Long-term

6.6.2 Continue to consult with the FFS or a professional forestry consultant regarding implementation of forest management activities as appropriate.

6.7 Cultural and Historical Resources

Goal: Protect, preserve and maintain cultural and historic resources.

Short-term

6.7.1 Ensure all known sites are recorded in the DHR Master Site file.

6.7.2 Monitor, protect and preserve as necessary any future identified sites.

6.7.3 Coordinate with DHR to assess the need for conducting a cultural resource survey.

Long-term

6.7.4 Cooperate with DHR or trained FWC Staff in designing site plans for development of infrastructure.

6.7.5 Continue to monitor, protect, and preserve as necessary any future identified sites.

6.7.6 Coordinate with DHR for cultural resource management guideline staff training.
6.8  **Capital Facilities and Infrastructure**  
Goal: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

**Short-term**

6.8.1  Continue to maintain one parking area facility.
6.8.2  Maintain 11.5 miles of roads.
6.8.3  Construct 2 miles of hiking trails.

**Long-term**

6.8.4  Monitor trails and infrastructure biannually for visitor impacts.
6.8.5  Continue to maintain one parking area facility.
6.8.6  Continue to maintain 11.5 miles of roads.
6.8.7  Continue to maintain two miles of hiking trails.
6.8.8  To improve or repair one facility and 0.5 miles of roads.

6.9  **Land Conservation and Stewardship Partnerships**  
Goal: Enhance fish and wildlife conservation, resource and operational management through development of an optimal boundary.

**Short-term**

6.9.1  Identify potential important wildlife habitat, landscape-scale linkages and wildlife corridors for operational/resource management.
6.9.2  Continue to identify and pursue acquisition needs and conservation stewardship partnerships.
6.9.3  Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB for FWC’s Landowner Assistance and Land Acquisition Programs.
6.9.4  Develop a CAS.
6.9.5  Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships.
6.9.6  Determine which parcels should be nominated for addition to the FWC acquisition list.
6.9.7  Identify potential non-governmental organization partnerships and grant program opportunities.
Long-term

6.9.8 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for BRLWEA as deemed necessary.
6.9.9 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB for the FWC LAP and for the FWC Land Acquisition Program.
6.9.10 Continue to determine which nominated parcels should be added to the FWC acquisition list.
6.9.11 Propose nominations of selected properties as additions to the FWC acquisition list.
6.9.12 Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.
6.9.13 Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the CAS.
6.9.14 Continue to coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate.

6.10 Climate Change
Goal: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the BRLWEA.

Long-term

6.10.1 Coordinate with FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the BRLWEA.
6.10.2 Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the BRLWEA.
6.10.3 Incorporate appropriate climate change adaptation strategies into the WCPR for the BRLWEA.
6.10.4 As appropriate, update the BRLWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of BRLWEA'S fire-adapted habitats.
6.10.5 As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency’s policies, programs and efforts to study, document and address potential climate change; assess the need to incorporate public education about climate change into the update of the Recreation Master Plan.
6.11 Research Opportunities
Goal: Explore and pursue cooperative research opportunities.

Long-term

6.11.1 Participate in cooperative research opportunities through universities, FWRI and others as appropriate.
6.11.2 Continue to assess the need for and participate in research and environmental education partnership opportunities as appropriate.
Figure 9: BRLWEA Proposed Facilities

Legend
- Bell Ridge Longleaf WEA
- Kiosk (6.4.3)
- Proposed Interpretive Signage (6.4.7)
- Proposed Picnic Shelter (6.4.5)
- Proposed Trails (6.8.3)
- Roads (6.8.2)
- Designated Entrance
- Parking Area (6.8.1)
7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with BRLWEA and provides solution strategies that will address these challenges. These specific challenges may not be fully addressed in the broader goals and objectives section above, and are thereby provided here.

**Challenge 1: Insufficient area exists within BRLWEA for long-term conservation of far-ranging species that have been documented to exist on BRLWEA such as eastern indigo snake and Sherman’s fox squirrel.**

Strategy: Explore conservation stewardship and acquisition opportunities to secure habitat necessary for far-ranging species such as eastern indigo snake and Sherman’s fox squirrel.

**Challenge 2: Currently, staffing is at insufficient levels for optimal management of Gopher Tortoise Mitigation Parks including BRLWEA.**

Strategy: Pursue funding for increased staffing.

**Challenge 3: Due to the area’s small size and the characteristics of its resources, BRLWEA cannot accommodate potential recreational demand.**

Strategy: Explore cross-promotion of other recreational opportunities in close proximity to BRLWEA.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of BRLWEA. This cost estimate was developed using data developed by FWC and other cooperating entities and is based on actual costs for land management activities, equipment purchase and maintenance and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from the Land Acquisition Trust Fund and from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through mitigation, may be sought to supplement existing funding.

The cost estimate below, although exceeding what FWC typically receives through the appropriations process, is consistent with the direction taken by current operational planning for BRLWEA. Cost estimate categories are those currently recognized by FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2013-2014 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.11.
### Bell Ridge Longleaf WEA Management Plan Cost Estimate

*Maximum expected one year expenditure*

<table>
<thead>
<tr>
<th>Resource Management</th>
<th>Priority Schedule:</th>
</tr>
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<tbody>
<tr>
<td>Exotic Species Control</td>
<td>Bold (1) Immediate (annual)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>Normal (2) Intermediate (3-4 years)</td>
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<tr>
<td>Cultural Resource Management</td>
<td>Italic (3) Other (5+ years)</td>
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<td>Timber Management</td>
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<tr>
<td>Hydrological Management</td>
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<td>Other</td>
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<td><strong>Subtotal</strong></td>
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<tr>
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<td>General administration</td>
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<th>Support</th>
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<tr>
<td>Land Management Planning</td>
<td><strong>$890</strong></td>
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<tr>
<td>Land Management Reviews</td>
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</tr>
<tr>
<td>Training/Staff Development</td>
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<td>Vehicle Purchase</td>
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<tr>
<td>Vehicle Operation and Maintenance</td>
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<td>Other</td>
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<tr>
<td>Facility Maintenance</td>
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<td><strong>Subtotal</strong></td>
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<th>Visitor Services/Recreation</th>
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<td>Info./Education/Operations</td>
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<tbody>
<tr>
<td>Resource protection</td>
<td><strong>$504</strong></td>
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**Total**                                                 **$86,677**

* Based on FWC’s current staffing ratio of approximately one full time employee (FTE) per 5,000 acres of managed area, two-tenths of one FTE position would be optimal to fully manage the area covered by this prospectus. All land management funding is dependent upon annual legislative appropriations.
# Bell Ridge Longleaf WEA Management Plan Cost Estimate

**Ten-year projection**

<table>
<thead>
<tr>
<th>Resource Management</th>
<th>Priority Schedule:</th>
<th>Priority Schedule:</th>
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<tbody>
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<td>Exotic Species Control</td>
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<td>Cultural Resource Management</td>
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<td>Hydrological Management</td>
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<td>Other</td>
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<td><strong>Subtotal</strong></td>
<td><strong>$424,066</strong></td>
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| Administration                       |                     |                    |
| General administration               | $2,550              |                    |

| Support                              |                     |                    |
| Land Management Planning             | $10,200             |                    |
| Land Management Reviews              | $12,008             |                    |
| Training/Staff Development           | $4,803              |                    |
| Vehicle Purchase                     | $128,207            |                    |
| Vehicle Operation and Maintenance    | $7,966              |                    |
| Other                                | $7,650              |                    |
| **Subtotal**                         | **$170,834**        |                    |

| Capital Improvements                 |                     |                    |
| New Facility Construction            | $8,268              |                    |
| Facility Maintenance                 | $56,769             |                    |
| **Subtotal**                         | **$65,036**         |                    |

| Visitor Services/Recreation          |                     |                    |
| Info./Education/Operations           | $24,729             |                    |

| Law Enforcement                     |                     |                    |
| Resource protection                 | $5,778              |                    |

**Total**                             | **$692,993**        |                    |
9 Analysis of Potential for Contracting Private Vendors for Restoration and Management Activities

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as “approved” below are those that FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as “conditional” items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as “rejected” represent those for which FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

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<thead>
<tr>
<th>Approved</th>
<th>Conditional</th>
<th>Rejected</th>
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<td>Exotic species control</td>
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</tr>
<tr>
<td>Mechanical vegetation treatment</td>
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<td>Public contact and educational facilities development</td>
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<tr>
<td>Prescribed burning</td>
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</tr>
<tr>
<td>Timber harvest activities</td>
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<tr>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Vegetation inventories</td>
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</tr>
</tbody>
</table>

10 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of FWC personnel are governed by the agency’s Internal Management Policies and Procedures (IMPP) Manual. The IMPP Manual provides internal guidance regarding many subjects affecting the responsibilities of agency personnel including personnel management, safety issues, uniforms and personal appearance, training, as well as accounting, purchasing, and budgetary procedures.
When public facilities are developed on areas managed by FWC, every effort is made to comply with Public Law 101-336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for BRLWEA are in compliance with the Conceptual State Lands Management Plan and its requirement for “balanced public utilization,” and are in compliance with the mission of FWC as described in its Agency Strategic Plan (Appendix 12.4). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 372, 253, 259, 327, 370, 403, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for BRLWEA in compliance with Chapter 388.4111 F.S. (Appendix 12.12). This plan was developed in cooperation with the local Osceola County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for BRLWEA County, Florida (Appendix 12.13).

11 Endnotes


12 Appendices

12.1 Lease Agreement
MEMORANDUM

Date: May 18, 2009
To: Jeri Bailey, Contracts Administrator
CC: Matt Pollock, w/ amendment
    Chris Tucker, w/ amendment
    David Alden, w/ cover memo only
    Rosa Torres, w/ cover memo only
    Accounting, w/ cover memo only
    Property, w/ cover memo only

From: Rich Mospens
HSC/THCR

RE: New IITF Lease No. 4595 (FWC Contract #08230), Bell Ridge Longleaf
Wildlife and Environmental Area (aka Davidson Ranch) 720 Acres

Included herewith please find a fully executed original of the referenced IITF Lease,
which has FWC as the sole managing agency and provides a lease term of December 22,
2008 through December 21, 2058. Also included is the routing form.

The concerned lease is intended for gopher tortoise mitigation.

Let me know if there are any questions pertaining to this matter.
BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA

LEASE AGREEMENT

BELLE RIDGE LONGLEAF WILDLIFE AND ENVIRONMENTAL AREA

Lease Number 4955

This lease is made and entered into this 22nd day of December, 2008, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as “LESSOR”, and FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as “LESSEE”.

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA holds title to certain lands and property being utilized by the State of Florida for public purposes, and

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit and possession of public lands by state agencies that may properly use and possess them for the benefit of the people of the State of Florida.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to LESSEE subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: LESSOR’s responsibilities and obligations hereinafter shall be exercised by the Division of State Lands, State of Florida Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease is situated in the County of Gilchrist, State of Florida and is more particularly described in Exhibit “A” attached hereto and hereinafter referred to as “leased premises”. Unless stated otherwise, all sovereign lands located within the boundaries of Exhibit “A” shall be considered a part of leased premises.

3. TERM: The term of this lease shall be for a period of fifty years, commencing on December 22, 2008, and ending on December 24, 2058, unless sooner terminated pursuant to the provisions of this lease.
4. **PURPOSE:** LESSOR shall manage the leased premises only for the preservation and protection of natural and historical resources and resource-based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 7 of this lease.

5. **QUIET ENJOYMENT AND RIGHT OF USE:** LESSOR shall have the right of ingress and egress to, from and upon the leased premises for all purposes necessary to the full quiet enjoyment by said LESSOR of the rights conveyed herein.

6. **UNAUTHORIZED USE:** LESSOR shall, through its agents and employees, prevent the unauthorized use of the leased premises or any use thereof not in conformance with this lease.

7. **MANAGEMENT PLAN:** LESSOR shall prepare and submit a Management Plan for the leased premises in accordance with Section 253.034, Florida Statutes, within twelve months of the effective date of this lease. The Management Plan shall be submitted for approval to the State of Florida Department of Environmental Protection, Division of State Lands, Office of Environmental Services, Mail Station 140, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition, which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSOR and LESSOR. LESSOR shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR.

The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.
8. **RIGHT OF INSPECTION**: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of LESSOR, in any matter pertaining to this lease.

9. **INSURANCE REQUIREMENTS**: LESSOR shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 294, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, State of Florida Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection or any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following:
   Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mall Station 130, 3300 Commonwealth Boulevard, Tallahassee, Florida 32399-3300.

10. **LIABILITY**: LESSOR shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSOR’S respective areas of responsibility under this lease or arising out of LESSOR’S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.

11. **ARCHAEOLOGICAL AND HISTORIC SITES**: Execution of this lease in no way affects any of the parties’ obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the State of Florida Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.834, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.

12. **BASEMENTS**: All assessments including, but not limited to, utility
13. **SUBLEASES**: This lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of LESSOR. Any sublease not approved in writing by LESSOR shall be void and without legal effect.

14. **POST CLOSING RESPONSIBILITIES**: In an effort to define responsibilities of the LESSOR and LESSEE with regard to resolving post-closing management issues, the parties agree to the following:
   a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and environmental products procured by the LESSOR, prior to closing.
   b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisition within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
   c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.
d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and LESSEE agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any substantial amount of their routine operating funds for the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE’s attorney’s fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

16. SURRENDER OF PREMISES: Upon termination or expiration of this lease, LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 119, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSOR. The decision to retain any improvements upon termination of this lease shall be at LESSOR’s sole discretion. Prior to surrender of all or any part of the
leased premises, a representative of the Division of State lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. **BEST MANAGEMENT PRACTICES**: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.018(2)(b), Florida Administrative Code, which have been selected, developed, or approved by LESSOR. LESSEE or other land managing agencies for the protection and enhancement of the leased premises.

17. **PUBLIC LANDS ARTHROPOD CONTROL PLAN**: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 369.4111, Florida Statutes and Chapter 58-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. **UTILITY FEES**: LESSEE shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

19. **ASSIGNMENT**: This lease shall not be assigned in whole or in part without the prior written consent of LESSOR. Any assignment made either in whole or in part without the prior written consent of LESSOR shall be void and without legal effect.

20. **PLACEMENT AND REMOVAL OF IMPROVEMENTS**: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose, location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by LESSEE which do not
become a permanent part of the leased premises will remain the property of LESSOR and may be removed by LESSOR upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSOR shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, removing all trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes. LESSOR shall maintain any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease.

22. ENTIRE UNDERSTANDING: This lease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSOR.

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should LESSOR breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSOR to remedy such breach within sixty days of such notice. In the event LESSOR fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSOR all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing. signed by LESSOR.

25. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by LESSOR. LESSOR shall not do or permit anything which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited.
to, mortgages or construction liens against the leased premises or against any interest of LESSEE therein.

26. CONDITIONS AND COVENANTS: All of the provisions of this lease shall be deemed covenants running with the land included in the leased premises, and construed to be "conditions" as well as "covenants" as though the words specifically expressing or importing covenants and conditions were used in each separate provision.

27. NOTICES: All notices given under this lease shall be in writing and shall be served by certified mail including, but not limited to, notice of any violation served pursuant to Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

LESSOR: Board of Trustees of the Internal Improvement Trust Fund of the State of Florida
Department of Environmental Protection
Bureau of Public Land Administration
Division of State Lands
3808 Commonwealth Boulevard, MS 139
Tallahassee, Florida 32399-3000

LESSEE: Florida Fish and Wildlife Conservation Commission
620 South Meridian Street, Room 311
Tallahassee, Florida 32399-1600

28. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof.

(b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statutes, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing...
liability or standards of conduct concerning any hazardous, toxic or
dangerous waste, substance, material, pollutant or contaminant. “Pollutants”
and “pollution” shall mean those products or substances defined in Chapters
376 and 403, Florida Statutes, and the rules promulgated thereunder, all as
amended or updated from time to time. In the event of LESSER’s failure to
comply with this paragraph, LESSER shall, at its sole cost and expense,
promptly commence and diligently pursue any legally required closure,
investigation, assessment, cleanup, decontamination, remediation,
restoration and monitoring of (1) the leased premises, and (2) all off-site
ground and surface waters and lands affected by LESSER’s such failure to
comply, as may be necessary to bring the leased premises and affected
off-site waters and lands into full compliance with all applicable federal,
state or local statutes, laws, ordinances, codes, rules, regulations, orders
and decrees, and to restore the damaged property to the condition existing
immediately prior to the occurrence which caused the damage. LESSER’s
obligations set forth in this paragraph shall survive the termination or
expiration of this lease. Nothing herein shall relieve LESSER of any
responsibility or liability prescribed by law for fines, penalties and
damages levied by governmental agencies, and the cost of cleaning up any
contamination caused directly or indirectly by LESSER’s activities or
facilities. Upon discovery of a release of a hazardous substance or
pollutant, or any other violation of local, state or federal law, ordinance,
code, rule, regulation, order or decree relating to the generation, storage,
production, placement, treatment, release or discharge of any contaminant,
LESSER shall report such violation to all applicable governmental agencies
having jurisdiction, and to LESSOR, all within the reporting periods of the
applicable governmental agencies.

20. PAYMENT OF TAXES AND ASSESSMENTS: LESSOR shall assume full
responsibility for and shall pay all liabilities that accrue to the leased
premises or to the improvements thereon, including any and all drainage and
special assessments or taxes of every kind and all mechanic’s or
materialman’s liens which may be hereafter lawfully assessed and levied
against the leased premises.
30. **RIGHT OF AUDIT:** LESSOR shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should LESSOR fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

31. **NON-DISCRIMINATION:** LESSOR shall not discriminate against any individual because of that individual’s race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

32. **COMPLIANCE WITH LAW:** LESSOR agrees that this lease is contingent upon and subject to LESSOR obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

33. **TIME:** Time is expressly declared to be of the essence of this lease.

34. **GOVERNING LAW:** This lease shall be governed by and interpreted according to the laws of the State of Florida.

35. **SECTION CAPTIONS:** Articles, subsections and other captions contained in this lease are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease or any provisions thereof.

36. **ADMINISTRATIVE FEE:** LESSOR shall pay LESSOR an annual administrative fee of $300 pursuant to subsection 16-2.926(8), Florida Administrative Code. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

37. **SPECIAL CONDITIONS:** The following special conditions shall apply to this lease: None.

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Page 18 of 16 Pages
Lease No. 4598
11/07
IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

By: 

Gloria C. Barber, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection

LESSOR

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 22nd day of December, 2006, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Witness

Print/Type Witness Name

[Signature]

Print/Type Rotary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality by:

DEP Attorney

Page 11 of 16 Pages
Lease No. 4595
11/11/07
SPECIAL WARRANTY DEED

THIS INDENTURE, made the __ day of __________, A.D. 2008, between The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc., whose address is 190 South Westminster Drive, Suite 300, Atlanta, Georgia 30326, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3901 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee;

(Wherever used herein the terms grantor and grantee include all the parties to this instrument and their heirs, legal representatives, successors and assigns. Grantor and grantee are used for singular and plural, as the context requires and the use of any gender shall include all genders.)

WITNESSETH: That the said grantor, for and in consideration of the sum of $10.00 and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee successors and assigns forever, the following described land situate, lying and being in Citrus County, Florida, to-wit:

Set Exhibit "A" attached hereto and by reference made a part hereof.

Property Appraiser's Parcel ID Numbers: 34-08-16-0000-0001-0010 & 35-08-16-0000-0001-0000.

This conveyance is subject to covenants, restrictions, limitations and conditions of record if any now exist, but any such interests that may have been terminated are not hereby re-created.

TO HAVE AND TO HOLD the same unto the said grantee in fee simple forever.

AND the said grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons claiming by, through or under the said grantor, but against none other.

*This conveyance is exempt from State Documentary Taxes pursuant to Section 201.02(6), Florida Statutes.*
IN WITNESS WHEREOF the grantor has executed these presents, the day and year first written.

Signed, sealed and delivered in the presence of:

[Signatures]

The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc.,

BY:

ROBERT BENDICK, JR.
as Vice President

(Corporate Seal)

State of Florida
County of St. Johns

The foregoing instrument was acknowledged before me this 13th day of June, 2004, by ROBERT BENDICK, JR., as Vice President of The Nature Conservancy, a nonprofit corporation organized and existing under the Laws of the District of Columbia, authorized to Transact Business in the State of Florida as The Nature Conservancy, Inc., on behalf of the corporation.

Such person(s) (Notary Public must check applicable box):

[ ] I have personally known to me,

[ ] I have produced a current driver’s license(s),

[ ] I have produced other identification

(Printed, Typed or Stamped Name of Notary Public) Commission No.:

My Commission Expires:

NOTARY PUBLIC SEAL

Florida Fish and Wildlife Conservation Commission | Bell Ridge Longleaf WEA Management Plan
EXHIBIT "A"

THAT PART OF THE EAST 1/2 OF SECTION 34, TOWNSHIP 8 SOUTH, RANGE 19 EAST, LYING EAST OF N.E. 65TH AVE.

ALSO

THE WEST 1/2 OF THE SOUTHWEST 1/4 AND THE NORTH 1/2 OF SECTION 35, TOWNSHIP 8 SOUTH, RANGE 19 EAST, LESS AND EXCEPT ANY PART LYING WITHIN THE RIGHT OF WAY OF COUNTY ROAD NO. 337

ALL BEING IN GILCHRIST COUNTY, FLORIDA.

LESS AND EXCEPT:

PARCEL A

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2583) AT THE NORTHEAST CORNER OF SAID SECTION 35; THENCE S. 01°27'27" E. ALONG THE EAST LINE OF SAID SECTION 35, A DISTANCE OF 2661.56 FEET TO A NAIL & DISK (MILLS ENG. LB2583) AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 35; THENCE 6° 87'51"12" W. ALONG THE SOUTH LINE OF SAID SOUTHEAST 1/4 OF THE NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING ON THE WEST RIGHT OF WAY LINE OF COUNTY ROAD 337 FOR A POINT OF BEGINNING; THENCE CONTINUE S. 87°51'12" W. ALONG SAID SOUTH LINE, A DISTANCE OF 623.07 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT NUMBER 2013004252 OF THE PUBLIC RECORDS OF GILCHRIST COUNTY, FLORIDA; THENCE N. 92°00'48" W., A DISTANCE OF 4.16 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING 0.6 FEET NORTH OF AN EXISTING FENCE LINE; THENCE N. 87°51'12" E. PARALLEL WITH SAID SOUTH LINE, A DISTANCE OF 623.08 FEET TO A 1/2" STEEL ROD AND CAP, THENCE S. 01°27'27" E. ALONG SAID WEST RIGHT OF WAY LINE, A DISTANCE OF 4.16 FEET TO THE POINT OF BEGINNING.

AND LESS AND EXCEPT:

DAVIDSON RANCH MITIGATION PARK

Page 1 of 2
EXHIBIT "A"

PARCEL B

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2583) AT THE NORTHEAST CORNER OF SAID SECTION 35, THENCE S. 01°27'27" E. ALONG THE EAST LINE OF SECTION 35, A DISTANCE OF 2561.68 FEET TO A NAIL & DISK (MILLS ENG. LB2583) AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 35, THENCE S. 87°31'12" W. ALONG THE SOUTH LINE OF SAID NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING ON THE WEST RIGHT WAY LINE OF COUNTY ROAD 337, THENCE CONTINUE S. 87°31'12" W. ALONG SAID SOUTH LINE, A DISTANCE OF 623.67 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT NUMBER 2004004262 OF THE PUBLIC RECORDS OF GILCHRIST COUNTY, FLORIDA FOR A POINT OF BEGINNING; THENCE CONTINUE S. 87°31'12" W. ALONG SAID LINE, A DISTANCE OF 3312.53 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 35; THENCE S. 01°20'12" E. ALONG THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHWEST 1/4, A DISTANCE OF 2653.59 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075) AT THE SOUTHWEST CORNER OF SAID EAST 1/2 OF THE SOUTHWEST 1/4, THENCE ALONG THE WESTERLY AND SOUTHERLY LINES OF A SURVEY FOR THE NATURE CONSERVANCY BY WAYNE CHANCE PL. S., #1824, DATED 1991, THE FOLLOWING FIVE (5) CALLS; (1) N. 01°24'29" W., A DISTANCE OF 1326.32 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (2) CONTINUE N. 01°24'29" W., A DISTANCE OF 1326.32 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (3) N. 87°54'48" E., A DISTANCE OF 1326.32 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (4) N. 87°54'59" E., A DISTANCE OF 1326.32 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); THENCE S. 02°08'48" E., 0.77 TO THE POINT OF BEGINNING.

DAVENPORT RANCH MITIGATION PARK
6270 PD PWGC

Page 2 of 2

Exhibit "A"
Page 16 of 16 Pages
Lease No. 4595
12.1.1 Establishment Order
**NEW EXPENDITURE**

1. Attach a copy of the State Project checking or, for existing State Projects, show the CSFA No.

2. Vendor/Recipient Checklist: Attached? Yes  No - not a State Project per (1) Checklist

<table>
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<tr>
<th>ORG CODE</th>
<th>EO</th>
<th>OBJECT CODE</th>
<th>CATEGORY</th>
<th>AMOUNT</th>
<th>PROJECT ID</th>
<th>FY</th>
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Certified Minority: Yes  No  Not Available  Not Applicable

Minority Category

See reverse side for options

Commodity Code

Federal Funds: Agency

CPDA

Routing Order for Approval

<table>
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<tr>
<th>Approval (Signature)</th>
<th>Date</th>
<th>Comments</th>
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1. Project Leader

2. Budget Director (Expenditure Only)

3. Div./Reg./Inst./Off. Dir./Section Leader

4. Contracts Administrator

5. Legal

6. Accounting

7. Exec./Div./Reg./Inst./Off. Dir. review (check below).

   Expenditure Contracts: Return to Originator for Contractor signature.
   Other documents: Send to (circle)
   Exec./Div./Reg./Inst./Off. Dir. for signature.

8. Exec./Div./Reg./Inst./Off. Dir. execute

   Originator Copy to Accounting*

   Originator to Contracts Administrator*

   Originator to OGFSAA Originals

FWC 167/rev. 01/08 SHARE/FORMS/CONROUTE 157

See reverse for Codes/Definitions/Distribution
The Florida Fish and Wildlife Conservation Commission, acting under the authority of Article IV, Section 9, Florida Constitution, and Rule 68A-4.007(2), F.A.C., hereby closes specific lands owned by the Florida Fish and Wildlife Conservation Commission and known as Davidson Ranch in Glades County to the taking of wildlife and freshwater fish. The legal description of said lands is attached hereto and incorporated herein. The closing of said lands to the taking of wildlife and freshwater fish is necessary to provide an opportunity to make fish and wildlife resource and public-use assessments and to enhance public access.

This order shall take effect upon signing and shall remain in effect until the Davidson Ranch is established as Bell Ridge Longleaf Wildlife and Environmental Area, but under no circumstances for longer than one year from the effective date.

Specific Authority: Article IV, Section 9, Florida Constitution.

Law Implemented: Article IV, Section 9, Florida Constitution, s. 120.81(5), Florida Statutes, Rule 68A-4.007(2), F.A.C.

Effective Date: September 16, 2008

Given under my hand and seal of the Florida Fish and Wildlife Conservation Commission this 16th day of September, 2008.

[Signature]
Kenneth Haddad
Deputy Chief of Staff
Executive Director

[Signature]
Agency Clerk

[Seal]
SPECIAL WARRANTY DEED

THIS INDENTURE, made this 2nd day of March, A.D. 2008, between The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc., whose address is 222 South Westmont Drive, Suite 300, Alachua Springs, Florida 32714-4269, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3000 Commonwealth Boulevard, Mail Station 113, Tallahassee, FL 32399-0000, grantee,

(wherever used herein the terms grantor and grantee include all the parties to this instrument and their heirs, legal representatives, successors and assigns. Grantor and grantee are used for singular and plural, as the context requires and the use of any gender shall include all genders)

WITNESSETH: That the said grantor, for and in consideration of the sum of $10.00 and other good and valuable considerations to said grantor in hand paid by said grantor and receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantor, and grantor's successors and assigns forever, the following described land situated, lying and being in Gilchrist County, Florida, viz:

See Exhibit "A" attached hereto and by reference made a part hereof.

Property Appraiser's Parcel ID Numbers: 34-08-16-0001-0010 & 35-08-16-0000-0010-0000.

This conveyance is subject to easements, restrictions, limitations and conditions of record if any now exist, but any such interests that may have been terminated are not hereby re-imposed.

TO HAVE AND TO HOLD the same unto the said grantee in fee simple forever.

AND the said grantor does hereby forever warrant the title to said land, and will defend the same against the lawful claims of all persons claiming by, through or under the said grantor, but against none other.

*This conveyance is exempt from State Documentary Taxes pursuant to Section 201.02(6), Florida Statutes.
IN WITNESS WHEREOF the grantor has executed these presents, the day and year first written.

Signed, sealed and delivered in the presence of:

[Signature]

Name of First Witness

[Signature]

Name of Second Witness

Printed, Typed or Stamped

The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc.

BY: Robert Bendick, Jr.

as Vice President

(Corporate Seal)

State of Florida

County of [County]

The foregoing instrument was acknowledged before me this 13th day of June, 2008, by Robert Bendick, Jr., as Vice President of The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc., on behalf of the corporation.

Such person(s) (Notary Public must check applicable box):

[ ] I personally know(s) the person(s) whose signature(s) appears above.

[ ] I have examined a current driver license(s).

[ ] I have examined as identification.

[ ] [Name of Notary Public

(Print, Typed or Stamped Name of Notary Public) Commission

No. [Commission Expires: ]
EXHIBIT “A”

THAT PART OF THE EAST 1/2 OF SECTION 34, TOWNSHIP 8 SOUTH, RANGE 16 EAST, LYING EAST OF N.E. 65TH AVE.

ALSO

THE WEST 1/2 OF THE SOUTHWEST 1/4 AND THE NORTH 1/2 OF SECTION 35, TOWNSHIP 8 SOUTH, RANGE 16 EAST, LESS AND EXCEPT ANY PART LYING WITHIN THE RIGHT OF WAY OF COUNTY ROAD NO. 337.

ALL BEING IN GILCHRIST COUNTY, FLORIDA.

LESS AND EXCEPT:

PARCEL A

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2583) AT THE NORTHEAST CORNER OF SAID SECTION 35, THENCE S. 01°27'27" E. ALONG THE EAST LINE OF SECTION 35, A DISTANCE OF 2661.66 FEET TO A NAIL & DISK (MILLS ENG. LB2583) AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 35; THENCE S. 87°51'12" W. ALONG THE SOUTH LINE OF SAID SOUTHEAST 1/4 OF THE NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING ON THE WEST RIGHT WAY LINE OF COUNTY ROAD 337 FOR A POINT OF BEGINNING; THENCE CONTINUE S. 87°51'12" W. ALONG SAID SOUTH LINE, A DISTANCE OF 623.67 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT NUMBER 2004040156 OF THE PUBLIC RECORDS OF GILCHRIST COUNTY, FLORIDA; THENCE N. 02°08'48" W., A DISTANCE OF 4.16 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING 0.5 FEET NORTH OF AN EXISTING FENCE LINE; THENCE N. 87°51'12" E. PARALLEL WITH SAID SOUTH LINE, A DISTANCE OF 623.68 FEET TO A 1/2" STEEL ROD AND CAP; THENCE S. 01°27'27" E. ALONG SAID WEST RIGHT OF WAY LINE, A DISTANCE OF 4.16 FEET TO THE POINT OF BEGINNING.

AND LESS AND EXCEPT:

DAVIESEON RANCH MITIGATION PARK
TWO TO FFWCC
EXHIBIT "A"

PARCEL B

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2683) AT THE NORTHEAST CORNER OF SAID SECTION 35, THENCE S. 01° 27' 27" E., ALONG THE EAST LINE OF SECTION 35, A DISTANCE OF 2681.68 FEET TO A NAIL & DISK (MILLS ENG. LB2683) AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 35; THENCE S. 87° 51' 12" W. ALONG THE SOUTH LINE OF SAID NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING ON THE WEST RIGHT WAY LINE OF COUNTY ROAD 337; THENCE CONTINUE S. 87° 51' 12" W. ALONG SAID SOUTH LINE, A DISTANCE OF 623.57 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT NUMBER 2004004252 OF THE PUBLIC RECORDS OF GILCHRIST COUNTY, FLORIDA FOR A POINT OF BEGINNING; THENCE CONTINUE S. 87° 51' 12" W. ALONG SAID LINE, A DISTANCE OF 3513.83 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 35; THENCE S. 01° 27' 27" E. ALONG THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHWEST 1/4, A DISTANCE OF 2653.58 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075) AT THE SOUTHWEST CORNER OF SAID EAST 1/2 OF THE SOUTHWEST 1/4; THENCE ALONG THE WESTERLY AND SOUTHERLY LINES OF A SURVEY FOR THE NATURE CONSERVANCY BY WAYNE CHANCE PLS #1804, DATED 1991, THE FOLLOWING FIVE (5) CALLS: (1) N. 01° 24' 29" W., A DISTANCE OF 1326.82 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (2) CONTINUE N. 01° 24' 29" W., A DISTANCE OF 1326.06 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (3) N. 87° 54' 58" E., A DISTANCE OF 1326.56 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); (4) N. 87° 54' 58" E., A DISTANCE OF 1326.60 FEET TO A 4"X4" CONCRETE MONUMENT (C&C INC. LB5075); THENCE S. 02° 08' 48" E., TO THE POINT OF BEGINNING.
Establishment Order No: WEA 09-04

Bell Ridge Longleaf Wildlife and Environmental Area

The Fish and Wildlife Conservation Commission (FWC) of the State of Florida, under Article IV, Section 9 of the Florida Constitution and the rules and regulations of the Commission, hereby establishes the Bell Ridge Longleaf Wildlife and Environmental Area in Gilchrist County, Florida, with the following described area:

Legal description for the Bell Ridge Longleaf Wildlife and Environmental Area is contained in Fish and Wildlife Conservation Commission (FWC) Contract Number 08230 with the Board of Trustees of the Internal Improvement Trust Fund (BOT Lease Number 4595). Legal descriptions for all properties within this agreement are located in Central Files of the FWC.


All lands comprising approximately 720 acres and posted as a Wildlife Environmental Area.

Authority: Article IV, Section 9, Florida Constitution

History: New WEA 09-04

Effective Date: February 4, 2009


[Signature]
Kenneth D. Haddad
Executive Director

[Stamp]
12.2 Public input
The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in development of a rational management concept for lands within the agency’s managed area system. FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The BRLWEA consensus meeting was held on the morning of September 14, 2011 at the Otter Springs Park and Campground in Trenton, Florida. The ideas found below were provided by stakeholders for consideration in the 2011 - 2021 Management Plan (MP) for BRLWEA with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Trustees of the Internal Improvement Trust Fund (Governor and Cabinet), the BRLWEA MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

Numbers to the left of **bold-faced ideas** listed below represent the total number of votes and the score of each idea. Rank is first determined by the number of votes (vote cards received for each idea) and then by score. Score is used to break ties when two or more ideas have the same number of votes. A lower score indicates higher importance because each voter’s most important idea (recorded on card #1) received a score of 1, and their fifth most important idea (recorded on card #5) received a score of 5. Ideas not receiving any votes are listed, and were considered during the development of the MP, but carry no judgment with regard to priority.

Statements following the bold-faced ideas represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. As indicated above, the ideas below are presented in priority order:
<table>
<thead>
<tr>
<th>Rank</th>
<th># of Votes</th>
<th>Score</th>
<th>Idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>[8]</td>
<td>[24]</td>
<td>5. <strong>Develop a prescribed burn plan and burn every 1-3 years.</strong> Possible burn during fall and growing seasons.</td>
</tr>
<tr>
<td>2.</td>
<td>[7]</td>
<td>[10]</td>
<td>1. <strong>Manage for no net loss or degradation of ecologically intact area land.</strong> Loss equals a decline in condition, keeping what is intact, intact.</td>
</tr>
<tr>
<td>3.</td>
<td>[7]</td>
<td>[29]</td>
<td>8. <strong>Management of exotic/invasive plants and animal species.</strong> Coyotes and feral cats are the main concern.</td>
</tr>
<tr>
<td>4.</td>
<td>[6]</td>
<td>[18]</td>
<td>10. <strong>Continue to remove offsite hardwoods through mechanical and herbicide means.</strong> Eradicate oak species of smaller diameter.</td>
</tr>
<tr>
<td>5.</td>
<td>[6]</td>
<td>[22]</td>
<td>7. <strong>Complete a comprehensive biological inventory.</strong> We need an inventory to guide management and influence burn rotations.</td>
</tr>
<tr>
<td>7.</td>
<td>[4]</td>
<td>[14]</td>
<td>3. <strong>Provide for as much public access as possible without affecting habitat.</strong> Bush hog for wider roads and create a trail map.</td>
</tr>
<tr>
<td>9.</td>
<td>[1]</td>
<td>[1]</td>
<td>6. <strong>Allow for equestrian usage and provide parking.</strong> Clean up road system to increase access. Look into Florida Forever project lands to expand the trail system.</td>
</tr>
</tbody>
</table>
## Bell Ridge Longleaf Wildlife and Environmental Area
### MAG Meeting Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Participants</strong></td>
<td></td>
</tr>
<tr>
<td>Chris Tucker</td>
<td>FWC Area Biologist</td>
</tr>
<tr>
<td>Travis Cooper</td>
<td>FWC Law Enforcement</td>
</tr>
<tr>
<td>Sandra Joseph</td>
<td>North Central Florida Regional Planning Council</td>
</tr>
<tr>
<td>Doug Longshore</td>
<td>Florida Forest Service</td>
</tr>
<tr>
<td>Dan Pearson</td>
<td>Florida Department of Environmental Protection</td>
</tr>
<tr>
<td>James Surdick</td>
<td>Florida Natural Areas Inventory</td>
</tr>
<tr>
<td>Nolan “Gus” Galloway</td>
<td>Canaan Ranch</td>
</tr>
<tr>
<td>Jerry Krummrich</td>
<td>Four Rivers Audubon Society</td>
</tr>
<tr>
<td>Catherine Whiteacre</td>
<td>Equestrian interest</td>
</tr>
<tr>
<td><strong>Supportive Participants</strong></td>
<td></td>
</tr>
<tr>
<td>Matt Pollock</td>
<td>FWC HSC, Regional Biologist</td>
</tr>
<tr>
<td>Scott Johns</td>
<td>FWC Habitat and Species Conservation (HSC), District Biologist</td>
</tr>
<tr>
<td>Matthew Chop</td>
<td>FWC Division of Hunting and Game Management</td>
</tr>
<tr>
<td>Tom M. Matthews</td>
<td>FWC Office of Recreation Services</td>
</tr>
<tr>
<td>Joseph Prenger</td>
<td>FWC HSC, Landowner Assistance Program, Regional Coordinator</td>
</tr>
<tr>
<td>Kris Cathey</td>
<td>FWC HSC, Landowner Assistance Program</td>
</tr>
<tr>
<td><strong>Invited but Unable to Attend</strong></td>
<td></td>
</tr>
<tr>
<td>Gilchrist County Commissioners</td>
<td>United States Fish and Wildlife Service</td>
</tr>
<tr>
<td>Chuck Underwood</td>
<td>Suwannee River Water Management District</td>
</tr>
<tr>
<td>Joe Flanagan</td>
<td>The Nature Conservancy</td>
</tr>
<tr>
<td>Wendy Matthews</td>
<td>Florida Crackers/Florida Trail Association</td>
</tr>
<tr>
<td>David Costakis</td>
<td>Natural Resources Conservation Service (NRCS)</td>
</tr>
<tr>
<td>Chakesaha “Kesha” Martin</td>
<td>Suwannee Bicycle Association</td>
</tr>
<tr>
<td>Edwin McCook</td>
<td>Gopher Tortoise Council</td>
</tr>
<tr>
<td>Christian Newman</td>
<td></td>
</tr>
<tr>
<td><strong>FWC Planning Personnel</strong></td>
<td></td>
</tr>
<tr>
<td>Michael Hallock-Solomon</td>
<td>Meeting facilitator</td>
</tr>
<tr>
<td>Rebecca Shelton</td>
<td>Recorder</td>
</tr>
<tr>
<td>Tom Houston</td>
<td>Recorder</td>
</tr>
<tr>
<td>Gary Cochran</td>
<td>Conservation Acquisition and Planning Administrator</td>
</tr>
</tbody>
</table>
NOTICE

The Florida Fish and Wildlife Conservation Commission Announces a

PUBLIC HEARING

For the

Bell Ridge Longleaf

Wildlife and Environmental Area

Gilchrist County, Florida

7:00 - 9:00 P.M. Thursday, October 20th, 2011
Gilchrist County Commission Chambers
210 S. Main Street
Trenton, Florida 32693

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Management Plan for the Bell Ridge Longleaf Wildlife and Environmental Area (WEA). This hearing is being held exclusively for discussion of the DRAFT Bell Ridge Longleaf WEA Management Plan.

A Management Prospectus for the Bell Ridge Longleaf WEA is available upon request. For a copy, please contact Rebecca Shelton, Florida Fish and Wildlife Conservation Commission, Conservation Acquisition and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9982.
GILCHRIST COUNTY JOURNAL
PUBLISHED WEEKLY
TRENTON, GILCHRIST COUNTY, FLORIDA

STATE OF FLORIDA,
COUNTY OF GILCHRIST:

Before the undersigned authority personally appeared
JOHN M. AYERS II, who on oath says he is Editor and
Publisher of the GILCHRIST COUNTY JOURNAL, a
newspaper published at Trenton, in Gilchrist County, Florida;
that the attached copy of advertisement, being a
Notice -- Florida Fish and Wildlife Conservation

Public Hearing

was published in said newspaper in the issues of
October 13, and 20, 2011

Affiant further says that the said GILCHRIST COUNTY
JOURNAL is a newspaper published at Trenton, in said
Gilchrist County, Florida, and that the said newspaper has
heretofore been continuously published in said Gilchrist
County, Florida, each week and has been entered as second
class mail matter at the post office in Trenton, in said Gilchrist
County, Florida, for a period of one year next preceding the
first publication of the attached copy of advertisement; and
affiant further says that he has neither paid nor promised any
person, firm, or corporation any discount, rebate, commission
or refund for the purpose of securing this advertisement for
publication in the said newspaper.

Editor and Publisher,

Sworn to and subscribed before me, and is personally known
to me, appeared John M. Ayers II, who did take an oath,

this 20 day of October,

A.D. 2011

Notary Public

ALETA K. SHEFFIELD
(Print Name)

NOTICE:
The Florida Fish and Wildlife Conservation Commission announces a PUBLIC
HEARING for the Bell Ridge Longleaf Wildlife and Environmental Area located
in Gilchrist County, Florida.
7:00 p.m., Thursday, October 20, 2011
Gilchrist County Commission Chambers
210 South Main Street
Trenton, FL 32693.
PURPOSE: To receive public comment regarding considerations for FWC’s ten-
year Management Plan for the Bell Ridge Longleaf Wildlife and Environmental
Area (WEA).
This hearing is designed exclusively for discussion of the draft management
plan. A Management Prospectus for Bell Ridge Longleaf WEA is available upon re-
quest from the Florida Fish and Wildlife Conservation Commission, Conservation
Planning Group, 630 South Meridian Street, Tallahassee, Florida 32301-1600. Telephone: (850) 487-9962 or (850) 487-
9767 or by email at Rebecca.Shuttermily@MyFWC.com.
PLACE: Hendry County Health Department Conference Room, 1140 Pratt Blvd., LaBelle, Florida 33935
GENERAL SUBJECT MATTER TO BE CONSIDERED: The meeting previously scheduled for November 18, 2011 has been cancelled. The November 2, 2011 meeting will discuss the agenda of the Hendry/Glades Community Alliance.
A copy of the agenda may be obtained by contacting: Robert McHarty at (239)338-1431.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 7 days before the workshop/meeting by contacting: Robert McHarty at (239)338-1431. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

The Orlando Area Refugee Task Force announces a public meeting to which all persons are invited.
DATE AND TIME: Wednesday, October 12, 2011, 10:00 a.m. – 12 Noon
PLACE: Orange County Juvenile Assessment Center, 823 W. Central Boulevard, Orlando, Florida 32805
GENERAL SUBJECT MATTER TO BE CONSIDERED: The purpose of the Orlando Area Refugee Task Force meeting is to increase awareness of the refugee populations, share best practices, spot trends in refugee populations, build collaborations between agencies, help create good communication among service providers, get informed about upcoming community events, and discuss refugee program service needs and possible solutions to meeting those needs.
A copy of the agenda may be obtained by contacting: Pedro Padua at (407)317-7356 or Tadzese Feselyhaye at (407)317-7335.
Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 5 days before the workshop/meeting by contacting: Pedro Padua at (407)317-7356 or Tadzese Feselyhaye at (407)317-7355. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice). For more information, you may contact: Pedro Padua at (407)317-7356 or Tadzese Feselyhaye at (407)317-7335.

FISH AND WILDLIFE CONSERVATION COMMISSION

The Fish and Wildlife Conservation Commission announces a public meeting to which all persons are invited.
DATE AND TIME: Thursday, October 20, 2011, 7:00 p.m. – 9:00 p.m.
For immediate release: September 27, 2011
Contact: Joy Hill, 352-258-3426

Public hearing for Bell Ridge Longleaf WEA plan is October 20th 2011.

The Florida Fish and Wildlife Conservation Commission (FWC) will hold a public hearing for the Bell Ridge Longleaf Wildlife and Environmental Area (WEA) Management Plan on Thursday, October 20th. The meeting will be from 7 to 9 p.m. at the Gilchrist County Commission Chambers, 210 South Main Street in Trenton, Florida.

The purpose of this hearing is to receive public comment on a draft of a 10-year management plan the FWC is developing for the Bell Ridge Longleaf WEA, in Gilchrist County. Components of the draft management plan will be presented to the public, followed by a question-and-answer session and public testimony.

A management prospectus for the Bell Ridge Longleaf WEA is available upon request from the FWC’s Conservation Acquisition and Planning group. Call Michael Hallock-Solomon at 850-487-9767 or Rebecca Shelton at 850-487-9982, or e-mail Rebecca.Shelton@MyFWC.com for the prospectus.

For more information, go to http://myfwc.com/conservation/terrestrial/management-plans/.
Mr. Jerry Krummrich, representing the Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) Management Advisory Group (MAG), opened the public hearing at 7:00 p.m., and briefly described the stakeholder meeting for the BRLWEA. He informed the public that the BRLWEA MAG, had met with the Florida Fish and Wildlife Conservation Commission (FWC) planners and biologists in Trenton on September 14, 2011. He provided a brief overview of the meeting and explained its purpose, which was to have an opportunity for the public at large to hear, understand, and comment on the elements of the management plan, and thus provide further guidance to FWC in its planning efforts.

Following the MAG meeting, FWC personnel met and developed the elements of their draft plan. Copies of this draft plan were also available at the door. Following approval by the Governor and Cabinet, the plan will be the official management guidance document for the next ten years. The public hearing was hosted by the BRLWEA MAG, but the other group members, some of whom were in attendance at the public hearing, were to rely on Michael Hallock-Solomon, Chris Tucker, Gary Cochran, and others from the FWC to present the plan elements and the process. The public hearing had been advertised in compliance with Chapter 259.032 (10), Florida Statutes.
Mr. Krummrich thanked the audience for participating, for their interest, attendance, and taking their personal time to be involved in the planning process. He then turned the proceedings over to Michael Hallock-Solomon, Conservation Planner for the FWC.

Mr. Hallock-Solomon thanked the MAG and participants, and reviewed the public hearing agenda for those in attendance. The agenda, management plan prospectus, and draft management plan was made available at the start of the meeting. Mr. Hallock-Solomon provided information about the public hearing to participants. Mr. Hallock-Solomon had FWC participants introduce themselves, and explained the evening’s agenda. Nine employees of the FWC were present at the public hearing. These participants included Division of Habitat and Species Conservation staff for the North Central Region of Florida, including managers of BRLWEA, Conservation Acquisition and Planning staff, Division of Law Enforcement, and Office of Recreation Services staff.

Mr. Hallock-Solomon then provided a brief presentation of the process by which the FWC develops area management plans, and how the plans are reviewed and approved by other entities in accordance with statutory and administrative procedures for state-owned lands.

He displayed an area vicinity map, showing surrounding conservation lands and Florida Forever projects. He then went over the acquisition history and that BRLWEA was acquired in 2008 to establish a Gopher tortoise mitigation park to help to ensure the survival of wildlife, including the Gopher tortoise and other wildlife resources.

BRLWEA is managed as a wildlife and environmental area for the purposes of natural resource conservation including soil, water, air, fish and wildlife, and for fish-and wildlife-based public recreation. BRLWEA is composed entirely of a mature second-growth sandhill in a fire-maintained natural condition. Rare and imperiled wildlife species that occur on the area include Eastern indigo snake, Gopher tortoise, Sherman’s fox squirrel, and Southeastern American kestrel. Sandhill spiny-pod is the only rare or imperiled plant documented to occur on BRLWEA.

Mr. Hallock-Solomon explained that the GIS data provided by the Department of State, Division of Historical Resources did not include any recorded cultural sites within or adjacent to BRLWEA. However, a future survey project could indicate the presence of cultural resources within BRLWEA. Recreational opportunities on BRLWEA currently include wildlife viewing, hiking, and astronomy. Potential recreational uses could include geocaching. Current recreational facilities on BRLWEA include an entrance kiosk with map and interpretive panel, parking area with handicap parking pad, and interior roads which provide hiking access.
Mr. Hallock-Solomon then directed participants to refer to the draft management plan handout provided at the door and introduced Mr. Chris Tucker, FWC Area Biologist for BRLWEA, who presented the management intent of the FWC. Mr. Tucker outlined the intent, goals, short and long-term objectives, challenge statements, and solution strategies (Addendum 1). He explained that in general, the FWC management intent for BRLWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC’s intent to provide quality fish and wildlife based recreational opportunities on BRLWEA. Mr. Tucker then went over the goals and objectives as outlined in Addendum 1.

Mr. Tucker concluded his presentation, and asked if anyone had questions. No questions were asked by participants.

Mr. Hallock-Solomon then asked if there were any more questions. Since none were asked, he then asked if any participant wanted to present testimony.

No one offered testimony, and the meeting was concluded at approximately 7:45 PM.
12.2.1 Management Prospectus
Management Prospectus
Bell Ridge Longleaf Wildlife and Environmental Area
September 2011

Florida Fish and Wildlife Conservation Commission
Conservation Acquisition and Planning

Introduction

Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA), managed by the Florida Fish and Wildlife Conservation Commission (FWC), consists of 719.97 acres in Gilchrist County, lying in parts of Sections 34 and 35, Range 16 East, Township 8 South. BRLWEA is located approximately 23 miles northwest of Gainesville, 30 miles south of Lake City, and 21.5 miles northeast of Chiefland. Other municipalities near BRLWEA include Trenton (12 mi southwest), and Bell (10 mi west) in Gilchrist County; Fanning Springs (17 mi southwest) in Gilchrist and Levy counties; High Springs (7.5 mi northeast), and Newberry (7.5 mi southeast) in Alachua County; Bronson (21 mi south) in Levy County; and Mayo (39 mi northwest) in Lafayette County.

BRLWEA is bordered on the north by privately owned improved pasture, pinelands, and shrub and brushland lying within sections 26 and 27, Township 8 South, Range 16 East. The northern half of the eastern boundary borders County Road 337, across which are privately owned sandhill in Section 36, Township 8 South, Range 16 East; the southern half of the eastern boundary borders privately owned pineland in Section 35, Township 8 South, Range 16 East. The southern boundary borders privately owned pineland, and perhaps small amounts of adjacent sandhill in Section 35, Township 8 South, Range 16 East, and in sections 2 and 3, Township 9 South, Range 16 East. The western boundary borders N. E. 65th Avenue, across which is privately owned sandhill lying within Section 34, Township 8 South, Range 16 East. Lands adjoining the western boundary lie within the Longleaf Pine Ecosystem Florida Forever Project.

BRLWEA was approved as an acquisition by the Florida Fish and Wildlife Conservation Commission (FWC) as a Gopher Tortoise (Gopherus polyphemus) Mitigation Park in June, 2007. FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, Florida Statutes (F.S.), which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the Commission, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife.

The Board of Trustees of the Internal Improvement Trust Fund (BOT) approved purchase of BRLWEA by the State of Florida under the FWC Fish and Wildlife Habitat Program in March 2008. The FWC acquisition purpose was to provide optimum habitat for listed wildlife populations, compatible fish and wildlife resource-based public outdoor recreation such as wildlife viewing, and educational programs within a single-use gopher tortoise habitat management regime.
BRLWEA is a mature, second-growth, remnant example of the sandhill natural community type which includes a healthy gopher tortoise population. It appears to consist entirely of xeric uplands. LandSat 2003 cover acreage estimates found for BRLWEA comprise approximately 677.6 acres (93.7%) natural community with the remainder perhaps being small areas of disturbed or substantially altered vegetation; or variation within the sandhill natural community type. BRLWEA exhibits typical dominant sandhill vegetation: a canopy and subcanopy of longleaf pine (*Pinus palustris*) and turkey oak (*Quercus laevis*), with the ground layer dominated by wiregrass (*Aristida stricta* var. *beyrichiana*).

Approximately 10.7 acres (1.5%) comprise pinelands; 18 acres (2.5%) comprise shrub and brushland. These 2003 LandSat classifications may be denser stands of longleaf pine, and disturbed or early-to-mid successional natural sandhill, respectively. Remaining cover acreages (16.7 acres: 2.3%) probably represent areas disturbed as access points, primitive roads, trails, and various patches in natural sandhill ecology. BRLWEA soils exceed 200 cm (6.5 ft) in depth to water table which is a desirable gopher tortoise recipient site characteristic. The existing, resident gopher tortoise population density was estimated to be 2.25 tortoises per acre in 2006. BRLWEA transmits moderate to high recharge rate of ground water to the Floridan aquifer and provides protection to ground water quality.

Title to BRLWEA, as State-owned lands, is held by the Governor and Cabinet, acting as the BOT. In December 2008, the Florida Department of Environmental Protection (DEP), Division of State Lands, as staff to the BOT entered into a lease agreement with FWC as lessee and lead manager of BRLWEA (Lease Number 4595). The term of this lease is 50 years. The FWC will manage the area as a gopher tortoise mitigation park for natural resource conservation, restoration, and fish and wildlife based public outdoor recreation. In accordance with acquisition through the Fish and Wildlife Habitat Program, FWC will manage BRLWEA in accordance with its statutory and administrative authority to acquire and manage lands important to fish and wildlife. Management goals will primarily emphasize conservation of fish and wildlife resources, under general guidance of the FWC Strategic Plan.

**Management Goals**

Land management goals for BRLWEA would seek to optimize the potential for the conservation of gopher tortoise ecology. Such goals would take into consideration relative values of various resources, buffering of areas requiring special protection, and other special management needs. Conservation and protection of environmentally unique native habitats, and imperiled and rare species, should be important management goals for the project. Management programs would conserve, protect, and restore important ecosystems, forests, landscapes, wildlife populations, and water resources. Programs would provide for public education, regulation of uses of resources, and natural resource-based recreation.

Priority will be given to use of an objective-based vegetation management process for the project area. Objective-based vegetation management includes the delineation of vegetation management units, quantification of the desired future condition for each unit, selection of an indicator-based management objective for each unit and monitoring of the indicator to determine attainment or progress towards accomplishing the objective. In this way, management can be adapted to best accomplish the management objective for each
vegetation management unit. Management objectives, which apply to several vegetation management units, or the entire management area, may also be developed through a similar process.

**Conditions Affecting Intensity of Management**

Resources described in this management prospectus indicate conditions affecting intensity of management. These include natural community types, topography and soils, surface and ground water conditions, extent of historic disturbance, and already existing improvements. Environmentally sensitive areas, such as erosion-prone sites, important habitats, and outstanding natural areas and wetlands shall be identified, appropriately managed, and protected.

The FWC conducts analysis of historic vegetation of natural community types to determine appropriate desired future condition. BRLWEA includes natural areas requiring application of resource management methods such as prescribed fire where appropriate. Areas sometimes require ecological restoration of ground cover, control of invasive species, and reforestation. Such resource management projects may be necessary to accomplish restoration objectives to attain the desired future condition. This is especially important for conservation of habitats and populations of imperiled or rare species. Landscape ecology is also important. Land use changes in the vicinity of a managed area may affect attainment of resource conservation goals for the area, and effectiveness of necessary resource management projects.

Biotic surveys shall be important to accomplish during the early part of plan development and implementation because imperiled or rare species are expected to occur. Development of facilities, as on all FWC Wildlife and Environmental Areas, would be kept to the minimum level necessary to assure protection of the resources and compatible recreational experiences. Any such development would be confined to areas of previous disturbance.

**Timetable for Implementing Management Provisions**

During the first year after acquisition, emphasis will be placed on site security, posting boundaries, public access, fire management, resource inventory, exotic species control, and removal of refuse. A management plan will be developed by FWC describing the management goals and objectives necessary to implement future resource management. The management plan will also establish future roles of cooperating entities including governmental agencies and other stakeholders.

Long-range plans will stress ecosystem management, and the protection and management of threatened and endangered species. Historic analysis of natural communities and vegetation types will be conducted. Quantified vegetation management objectives shall then be developed. The FWC shall assess the condition of wildlife resources and provide planning support for to enhance management of focal species and recovery of imperiled species on BRLWEA. Use of prescribed fire and other resource management activities shall maintain and restore natural communities and vegetation types to benefit native wildlife resources.
Programs providing multiple recreational uses will also be implemented. These public outdoor fish and wildlife based recreational uses will enhance the public’s understanding of BRLWEA while providing public enjoyment of outdoor recreational opportunities. A master recreation plan will be developed for BRLWEA that is consistent and compatible with the purposes of acquisition. Essential roads will be stabilized to provide all weather public access and management operations. Unnecessary roads, fire lanes, and hydrological disturbances will be abandoned or restored as practical. Infrastructure development shall be as necessary to allow public access and to provide facilities, security, and management of the property. Archaeological and historic sites would be managed in coordination with the Florida Department of State, Division of Historical Resources.

**Estimate of Revenue-Generating Potential**

The revenue generating potential of BRLWEA is not known and will depend upon future uses to be approved in the management plan. However, revenue from such environmental lands might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be economically developed. Long-term value of ecosystem services to local and regional land and water resources, and to human health, are expected to be significant. The Legislature appropriates funds for land management.

**Recommendations as to Other Governmental Agency Involvement**

FWC should cooperate with other state and local governmental agencies including DEP, the Florida Department of Agriculture and Consumer Services, Division of Forestry, and Gilchrist County in management of the property.

**Estimate of Costs**

Following is an estimate of costs to operate and manage BRLWEA under the BRLWEA Management Plan. Costs listed below are projected estimates necessary to fully implement the BRLWEA Management Plan and reflect the actual annual operating budget of BRLWEA. All land management funding is dependent upon annual legislative appropriations.
## Resource Management

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<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
<th>Priority</th>
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</thead>
<tbody>
<tr>
<td>Exotic Species Control</td>
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<td>Immediate (annual)</td>
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<tr>
<td>Prescribed Burning</td>
<td>$17,010</td>
<td>Intermediate (3-4 years)</td>
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<td>Cultural Resource Management</td>
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<td>Other (5+ years)</td>
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<td>Timber Management</td>
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<td>Hydrological Management</td>
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<td>Other</td>
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## Administration

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## Support

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<td>Vehicle Operation and Maintenance</td>
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<tr>
<td>Other</td>
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## Capital Improvements

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</thead>
<tbody>
<tr>
<td>New Facility Construction</td>
<td>$3,890</td>
</tr>
<tr>
<td>Facility Maintenance</td>
<td>$4,952</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$8,842</td>
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## Visitor Services/Recreation

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Info./Education/Operations</td>
<td>$2,157</td>
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</table>

## Law Enforcement

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<th>Activity</th>
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<tbody>
<tr>
<td>Resource protection</td>
<td>$504</td>
</tr>
</tbody>
</table>

**Total** $92,789 *

* Based on FWC's current staffing ratio of approximately one full time employee (FTE) per 5,000 acres of managed area, two-tenths of one FTE position would be optimal to fully manage the area covered by this prospectus. All land management funding is dependent upon annual legislative appropriations.
Figure 1. Bell Ridge Longleaf WEA Locator Map with Section, Township and Range
Figure 2. Bell Ridge Longleaf WEA Proximity Map with Conservation Lands and Florida Forever Projects
Figure 3. Bell Ridge Longleaf WEA FWC Wildlife Observations and FNAI Element Occurrences
Figure 4. Bell Ridge Longleaf WEA FNAI Natural Communities
12.3 Soil Series Descriptions
Map Unit Description

Gilchrist County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Penney fine sand, 0 to 5 percent slopes

Component: Penney (80%)

The Penney component makes up 80 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loam or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R152AY012L Longleaf Pine-Turkey Oak Hills ecological site. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 3 - Penney fine sand, 5 to 8 percent slopes

Component: Penney (80%)

The Penney component makes up 80 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loam or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 13 - Wadley fine sand, 0 to 5 percent slopes

Component: Wadley (85%)

The Wadley component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sands and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 18 - Kershaw fine sand, gently rolling

Component: Kershaw (90%)

The Kershaw component makes up 90 percent of the map unit. Slopes are 2 to 8 percent. This component is on knolls on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R152AY003L Longleaf Pine-Turkey Oak Hills ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 35 - Alpin fine sand, 0 to 5 percent slopes

Component: Alpin (90%)

The Alpin component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loam or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.
Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.
12.4 FWC Agency Strategic Plan
Mission:
Managing fish and wildlife resources for their long-term well-being and the benefit of people.

Vision:
Powered by science-based leadership, we will create a sustainable and healthy future for Florida’s fish, wildlife, water and habitat resources.

Values:
FWC’s Core Values of Integrity, Dedication and Respect are the internal beliefs that drive our behavior and support the sound function of the agency. They are the basis for how agency activities are conducted and serve as the foundation for FWC’s Expectations.

Integrity: Doing the right thing, which leads to honesty, accountability and fairness in how we treat others.

Dedication: Commitment that leads us to shape our actions to accomplish a purpose and produce a quality product.

Respect: The regard that drives how we treat others, internal and external to the agency.
FWC Strategic Plan

Theme: Florida's Fish and Wildlife Populations and their Habitats

Goal: Ensure the sustainability of Florida's fish and wildlife populations

Strategies:
- Manage threatened species so they are recovered and no longer meet Florida's listing criteria
- Halt or reverse species population decline
- Manage species with healthy populations to ensure they do not become threatened
- Continually evaluate the effectiveness of existing laws and amend or repeal them as warranted
- Coordinate and conduct research and monitoring programs to provide information to decision makers to accomplish effective management
- Develop plans for addressing species conservation in light of long-term ecological changes and short-term changes that may result from natural or mammal catastrophic events
Goal: Make sure there are sufficient quantities and quality of habitats to support healthy and diverse fish and wildlife populations.

Strategies:
- Secure and maintain sufficient interconnected quantities of habitats to sustain healthy fish and wildlife populations.
- Manage a wide variety of habitats to sustain healthy and diverse fish and wildlife populations.
- Inform, encourage and assist public and private landowners in managing and enhancing their lands for fish and wildlife conservation.
- Support and assist private landowners’ achievement of conservation goals in harmony with generating revenues from their lands.
- Recognize and support cooperative partnerships with government agencies that own and manage public lands to assist their efforts to provide fish and wildlife habitat.
GOAL: Use the best available science to guide fish and wildlife conservation and management decision-making

Strategies:
- Develop, acquire and use the best available scientific information to support fish and wildlife conservation
- Investigate and develop innovative techniques which will improve our ability to achieve species conservation
- Obtain and use social science data and information about people's attitudes, beliefs and behaviors to guide management actions
- Develop and implement science-based risk assessments and use the resulting information to guide and prioritize management actions
Theme: Hunting, Fishing, Boating
and Wildlife-viewing Opportunities

Goal: Ensure that Florida’s fish and wildlife populations
are able to sustain hunting, fishing and wildlife viewing for current
and future citizens and visitors

Strategies:
- Use science to guide the development and management of hunting, fishing,
boating and wildlife-viewing activities
- Manage fish and wildlife populations to provide sustainable fishing, hunting and wildlife-viewing opportunities
- Create incentives for private and public landowners to provide access
for hunting, fishing, boating and wildlife viewing
Goal: Use the minimal amount of regulations to manage sustainable fish and wildlife populations for hunting, fishing and wildlife viewing.

Strategies:
- Coordinate with partners and stakeholders to make sure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.
- Implement and enforce regulations in an informative and influential manner.
- Provide our expertise to partners about how their regulations impact fish and wildlife conservation.
- Continually evaluate and improve existing regulations and amend or eliminate those found unnecessary or ineffective.
- Develop new regulations only as necessary and essential for achieving resource management goals or addressing significant resource management or public safety issues.
- Consider economic and social impacts and resource management benefits when evaluating proposed new regulations.
Goal: Enhance the safety of those who hunt, fish, boat and view fish and wildlife

Strategies:
- Provide opportunities for citizens to learn how to safely hunt, fish, boat and view wildlife.
- Effectively communicate to the public how hunting, fishing, boating and wildlife viewing can be safe and compatible with each other.
- Enhance the public’s boating safety and waterway experience through improved access, management, education and enforcement.
- Proactively patrol and enforce regulations to protect public safety and enrich the outdoor experience of our citizens and visitors while safeguarding the natural resources.
Goal: Provide citizens and visitors with quality hunting, fishing, boating and wildlife-viewing opportunities that meet or exceed their expectations.

Strategies:
- Determine and evaluate the types of experiences hunters, fishers, boaters and wildlife viewers seek.
- Develop and maintain strong and effective partnerships with local, state and federal agencies and private landowners to provide a robust network of public hunting opportunities through our Wildlife Management Area system.
- Seek and maintain collegial relationships, based on mutual respect and transparency with partners and stakeholders, to ensure their valuable input and guidance.
- Acknowledge and show appreciation for the contributions of our partners and stakeholders.
- Develop, manage and evaluate diverse, accessible and widely available hunting, fishing, boating and wildlife-viewing opportunities that meet the needs and expectations of user groups while safeguarding the resources.
- Recruit and manage sustainable levels of citizen and visitor participation in hunting, fishing, boating and wildlife viewing.
- Design hunting, fishing, boating and wildlife-viewing opportunities to minimize user conflicts.
- Provide special programs for youth hunting, fishing, boating and wildlife viewing.
Theme: Sharing Responsibility for Fish and Wildlife Conservation and Management with an emphasis on developing conservation values in our youth

Goal: Create the next generation that cares about fish and wildlife conservation

Strategies:

- Establish and expand a network of youth conservation centers through partnerships and sponsorships with public and private partners
- Leverage current FWC programs and staff to the greatest extent feasible to support youth conservation programs and initiatives
- Develop and deliver a standardized youth conservation curriculum and traditional outdoor activity programs
- Assist stakeholders in adapting youth conservation programs and the standard curriculum to appeal to the socially and culturally diverse lifestyles of Florida's residents and visitors
- Strengthen and expand partnerships with non-governmental organizations, stakeholders and volunteer networks to support youth conservation programs and centers
- Utilize youth conservation centers and programs to bring youth and families from urban, suburban and rural communities together through outdoor conservation-based experiences
- Leverage youth conservation programs to foster unity and a strong sense of common purpose in shared responsibility for fish and wildlife conservation among the conservation community
Goal: Further engage stakeholders and coordinate partnerships in the processes of developing and implementing conservation programs.

Strategies:

- Develop an understanding of current and future stakeholder and partner needs and perspectives.
- Ensure that stakeholders and partners understand fish and wildlife conservation resource needs, including habitat, and management options.
- Manage stakeholder engagement processes with flexible and adaptable approaches.
- Provide input to partners regarding the impact of their actions on fish and wildlife conservation.
- Create and implement a common vision among partners and the FWC for improving and maintaining species populations and habitat, through interagency coordination, mutually supportive goals and initiatives.
- Encourage other governmental partners to consider fish and wildlife conservation and boating needs during their policy development.
- Coordinate with partners on the development and implementation of hunting, fishing, boating and wildlife-viewing management actions.
Goal: Provide information to the public so that people, especially youth, understand and value conservation of fish and wildlife and their habitats

Strategies:
- Anticipate and understand the public's attitudes, beliefs, motivations and values regarding fish and wildlife conservation
- Design and implement outreach and education programs that communicate the value of fish and wildlife conservation

Goal: Increase opportunities for the public, especially youth, to actively support and practice fish and wildlife conservation stewardship

Strategies:
- Inform the public about conservation stewardship and how they can be actively involved in achieving conservation of fish and wildlife
- Provide and promote opportunities for the public to participate in conservation activities
- Provide and promote youth conservation programs to foster awareness, stewardship and participation in hunting, fishing, boating and wildlife-viewing activities
- Promote conservation stewardship to increase compliance with regulations
Goal: Minimize adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants that are known to cause problems or have a potential to cause problems.

Strategies:

- Anticipate and understand the public’s attitudes, beliefs, motivations and values regarding native and nonnative problematic fish, wildlife and plants.
- Identify fish, wildlife, and plant species that may become problematic and develop and implement strategies to address them.
- Provide citizens and businesses with information on how to act safely and responsibly to avoid adverse impacts when they interact with or possess fish, wildlife and plants.
- Enhance partnerships to address problematic fish, wildlife and plants and ensure a consistent and integrated approach.
- Implement and enforce regulations to address problematic fish, wildlife and plants.
- Provide and promote additional plans to properly manage captive fish and wildlife.
- Protect human health and safety by conducting conservation-related research, monitoring and special investigations.
Theme: Community Involvement

Goal: Integrate our commitment to benefit the community and enhance the economy through our work

Strategies:
- Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife
- Provide staff with opportunities that benefit the community
- Support external events and programs that promote fish and wildlife conservation
- Continue to attract visitors by providing top-quality hunting, fishing, boating and wildlife-viewing opportunities
- Provide assistance to communities to help them realize the social and economic development benefits of having local areas managed for fish and wildlife
- Provide citizens and visitors with reliable and current information on Florida’s fish and wildlife
Goal: Provide resources and support for the safety of citizens and visitors and for emergency responses

Strategies:
- Provide efficient emergency response through mutual-aid efforts with local, state and federal partners
- Participate in partnerships to ensure the safety of citizens and visitors

Goal: Promote an understanding of the social and economic benefits of hunting, fishing, boating and wildlife viewing

Strategies:
- Acquire information about the social and economic benefits of wildlife conservation, hunting, fishing, boating and wildlife viewing
- Inform the public about the social and economic benefits of hunting, fishing, boating and wildlife viewing
- Inform the public about the social and economic benefits of wildlife conservation
Theme: Effective and Responsive Organization

Goal: Ensure excellent and consistent service to Florida’s citizens and visitors

Strategies:
- Engage our customers and understand their needs
- Ensure excellent and consistent customer service
- Improve the way we do business to ensure excellent customer service throughout the agency

Goal: Ensure FWC has an accountable and highly effective workforce

Strategies:
- Recruit, hire and retain outstanding employees throughout the agency who can serve diverse citizens and visitors
- Provide quality training and professional-development opportunities for employees to thrive and advance in their careers
- Create and implement an effective leadership-development program and a succession plan
- Foster a work environment of trust, open communication and creativity that provides for both accountability and innovation
- Promote a culture where employees work collaboratively and have a comprehensive understanding of how they contribute to the agency mission
Goal: Manage and seek adequate resources to achieve fish and wildlife conservation and meet and exceed customer needs

Strategies:
- Secure and use sustainable and diverse funding to support program activities
- Align our agency resources to support agency priorities
- Ensure that business and financial practices demonstrate a high level of fiscal accountability, integrity, soundness, and risk-management principles
- Develop and implement protocols to ensure a healthy and safe working environment for all FWC employees
- Acquire and maintain equipment, facilities and infrastructure necessary to support fish and wildlife conservation and meet our customers’ needs
Goal: Make continuous improvement a core value of the agency’s culture

Strategies:
- Implement strong mechanisms to monitor, measure, and evaluate the way we do business
- Provide a work environment where innovation is encouraged and supported
- Anticipate the impacts of emerging trends and opportunities that may influence the agency’s ability to accomplish its mission and address those as needed

Goal: Increase the public’s understanding and support of FWC in protecting and conserving fish and wildlife and their habitats

Strategies:
- Develop and implement a communication and outreach plan to educate the public about agency programs and how these programs benefit current and future generations
- Conduct all work with credibility to maintain and increase the public’s trust in the FWC
- Provide opportunities for the public to support FWC decisions that benefit fish and wildlife and their habitats
- Strengthen FWC’s reputation for professional excellence and quality service through a dedicated, well-trained, specialized and diversified workforce
12.5 Prescribed Burning Plan
INTRODUCTION

Fires, naturally occurring or man-induced, are an integral part of the ecology of the southern pine (*Pinus* spp.) region (Miller 1963) and have maintained a fire-dependent plant community in the southeast for countless years. Exclusion of fire results in the growth of dense brush and eventual succession toward a climax hardwood community. Areas covered by dense brush lose much of their value to wildlife. For example, food and browse plants are less palatable, access is restricted and predator's ability to capture prey is hampered. Additionally, heavy fuel accumulation results in increased wildfire hazard.

Prescribed burning is used extensively in forestry and wildlife management for fuel reduction, brush control, disease and insect control, site preparation and wildlife habitat improvement. It is a recommended tool for management of such game animals as white-tailed deer (*Odocoileus virginianus*), bobwhite quail (*Colinus virginianus*), mourning dove (*Zenaida macroura*) and wild turkey (*Meleagris gallopavo*) (U. S. Forest Service 1969, Stoddard 1971). The value of prescribed fire to these and other animals, such as raptors and some songbirds, are well documented (Givens 1962, Miller 1963, Stoddard 1963). Prescribed fire benefits wildlife by reducing underbrush density, thus improving access, promoting the growth of succulent vegetation and lowering browse to feeding height of deer. Additionally, it benefits aesthetic values and enhances growth and fruiting of important wildlife food plants, such as dewberries (*Rubus* spp.) and blueberries (*Vaccinium* spp.) (Halls 1977).

The Bell Ridge Longleaf WEA (BRLWEA) is composed entirely of fire dependent, ecologically intact, sandhill habitat. The primary objectives of prescribed burning at BRLWEA are to (1) improve wildlife habitat, (2) maintain fire-dependent plant communities, (3) reduce fuel accumulation and wildfire hazard, (4) enhance aesthetics, and (5) control oak mid-story. The purpose of this plan is to ensure that all aspects of the burn are well considered and that the burning is conducted in an orderly manner so impacts of smoke and other environmental hazards are minimized.
DESCRIPTION OF AREA

Bell Ridge Longleaf Mitigation Park Wildlife and Environmental Area (BRLWEA) is located in west central Gilchrist County, between High Springs and Bell Florida, near the Alachua county line. BRLWEA encompasses 720 acres of intact longleaf pine-turkey oak-wiregrass sandhills and has no wetland component. BRLWEA was acquired from The Nature Conservancy (TNC) in 2008. Under TNC management, the area was known as the Davidson Ranch. The property was acquired as a gopher tortoise mitigation park and its current management activities emphasize the maintenance and restoration of optimum habitat conditions for listed wildlife. The site supports several listed species including gopher tortoise and Sherman’s fox squirrel. The Florida Fish & Wildlife Conservation Commission has lead management authority. The property is surrounded by former sandhill, most of which has been converted to pine plantation and pasture.

PRESCRIBED BURNING PROGRAM

A. Firelines

Existing features (e.g. roads) are utilized as firelines to safely contain prescribed fires whenever feasible. These roads are evenly spaced throughout the property and delineate 12 burn zones of modest and manageable size. Many of the roads that are utilized as firebreaks require either disking or tilling to maintain functional mineral firebreaks before actual burning. Firelines will be maintained as roads by FWC personnel and maintained by mowing during non-burning intervals. The five mile boundary was constructed forty feet wide, to give fire fighting equipment and personnel room to safely operate as well as a wide space to contain prescribed burning operations within the WEA boundary.

B. Size and Arrangement of Management Units

BRLWEA is divided into 12 management units that function as burn zones for prescribed fire purposes. The burn zones are roughly rectangular in shape and average sixty acres in size, with the largest management unit at 106 acres and the smallest at 22 acres.

All burn zones are composed of intact sandhill habitat, with light to moderate fuel loadings. The forest canopy is dominated by longleaf pine (Pinus palustris) with some large live oaks (Quercus virginiana), turkey oaks (Quercus laevis), and post oaks (Quercus stellata),
distributed about the property. The mid story is largely composed of smaller turkey oaks, post oaks, bluejack oaks (*Quercus incana*) and live oaks.

The groundcover is dominated by wiregrass (*Aristida stricta var. beyrichiana*), but is fortified with a diverse suite of native sandhill species. The groundcover is dense enough to effectively carry fire across each burn zone with moderate weather conditions at the time of ignition.

The burn zones can all be burned at one time or separated out according to management timetables, considering relative need, weather conditions, and personnel availability. Ideally, burns should be conducted at one to three year intervals with a two year rotation being optima

C. **Type of Burn**

All 12 management units have been burned and are currently in a 2-3 year burn rotation. The sandhill of the type found at BRLWEA should be burned using backfire, strip head fire, or flanking fire. Firing technique will likely vary due to ambient weather conditions at the time of ignition, as well as fuel loading. The appropriate technique will keep fire intensity down to minimize pine mortality while providing adequate heat to control mid story species. Every effort will be made to burn during the growing season to best control small oaks, stimulate the production of viable grass seeds, and flowering of native forbs.

D. **Season and Time of Day**

Growing season burning will be preferred but dormant season burns should be allowed when needed. Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night, if necessary.

E. **Optimal Weather Conditions**

Prescribed burns should be conducted 2-5 days after a rain and require relative humidity of from 30-60%, air temperature of 60-95°F and winds from any direction can be used as long and wind speeds are not excessive (4-10 mph in the stand).
SMOKE MANAGEMENT

There is considerable flexibility when burning at BRLWEA due to the absence of smoke sensitive areas in the immediate vicinity. Gilchrist County Road 337, is the eastern boundary of BRLWEA, and will be well posted with caution signs if there is any likelihood of smoke crossing the road. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,500 feet and transport wind speed of 5-15 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as needed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

PERSONNEL AND EQUIPMENT NEEDED

A. Personnel

Under ideal conditions, burning of any compartment can be conducted with a minimum crew of six; however, a crew of eight to ten trained personnel is optimal. All participating staff will be required to wear personal protective equipment (PPE) as identified in the agency’s prescribed burn policy.

B. Equipment

Fire fighting hand tools, drip torches, burn fuel, four-wheeled ATVs, hand held radios, and Type VI fire engines (brush truck) are required equipment. Road side smoke caution signs (hazard) signs should be available if needed.

C. Fire Weather Monitoring

One person will be assigned to monitor fire weather on each burn. This person will monitor and record wind speed, wind direction and humidity hourly, or as requested by any burn crew member, during the burn. If conditions stray outside of the burn prescription the burn boss will be notified and appropriate measures can be taken.

PERMITS AND NOTIFICATIONS

A permit will be obtained from the Florida Forest Service (FFS) on the morning of the burn.
SPECIAL CONSIDERATIONS

Care will be taken to protect environmentally sensitive areas and to employ the best fire management actions that will provide the greatest long term benefit to the largest number of species. Wildland fire is an ecologically disruptive event in the immediate short term. But the long term benefits of properly timed and applied prescribed fire greatly exceed any short term disruptions.

Gopher tortoises (*Gopherus polyphemus*) and both game and non-game birds that breed in the sandhill ecosystem are dependent on the vegetative response of the groundcover to fire, and research has shown no adverse effects on the populations of these species from prescribed burning (Means and Campbell 1981). Although individual tortoises may be destroyed by fire on rare occasions, prescribed burning provides better habitat for tortoise populations than unburned areas (J. Diemer, FGFWFC, pers. commun.).
LITERATURE CITED


Figure 1. Location of burn zones / management units on Bell Ridge Longleaf Wildlife Environmental Area (BRLWEA), Gilchrist County, Florida.
12.6 Timber Assessment
TIMBER ASSESSMENT
BELL RIDGE LONGLEAF
WILDLIFE and ENVIRONMENTAL AREA
PREPARED BY
DOUG LONGSHORE
SENIOR FORESTER, OTHER PUBLIC LANDS REGION 2
FLORIDA FOREST SERVICE
October 2011

PURPOSE

This document is intended to fulfill the timber assessment requirement for Bell Ridge Wildlife and Environmental Area (BR WEA) as required by Section 253.036, Florida Statutes. The goal of this Timber Assessment is to evaluate the potential and feasibility of managing timber resources for conservation and revenue generation purposes.

BACKGROUND

This tract was approved for purchase by FWC in 2008 under FWC’s Fish and Wildlife Habitat Acquisition Program for the purpose of establishing, managing, and conserving a Gopher Tortoise Mitigation Park. Prior to purchase by the state, this property was in private ownership. While in private ownership, the tract was used primarily for bird hunting. During this time, the property was prescribed burned on a regular basis.

GOALS AND OBJECTIVES

This property is to be managed as a Gopher Tortoise Mitigation Park for natural resource conservation, restoration, and resource-based public outdoor recreation within a multiple-use management concept. The main emphasis however, is the restoration and management of gopher tortoise habitat.

Gopher tortoises prefer habitats characterized by a relatively open tree canopy which allows ample sunlight to reach the ground, promoting the growth of a healthy ground cover. It will be essential to introduce frequent prescribed fires into this area in order to insure the success of restoration and maintenance efforts.

TIMBER MANAGEMENT

A useful measurement of tree stocking, density and any other characteristic for that matter, is basal area per acre (BA). Basal area is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (The diameter of an individual tree measured at this height is referred to as its diameter breast height or DBH.) Once the basal area of individual trees is known, the stand table factor (STF) can be derived. The stand table factor is the number of trees represented by a tree which is “in” with the angle gauge or prism. Suppose the stand table factor for a particular tree was 30. This suggests that for each one of those particular trees counted in with the prism, there are 30 of these trees per acre. Knowing that, if those particular trees had 2
logs per tree then you would have 60 logs per acre. If they had 100 insects per tree, then you would have 3000 insects per acre. Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. North Florida longleaf pine stands with 70 to 110 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than it does larger diameter trees to equal one square foot of basal area. (For example: It takes 357 evenly spaced, six-inch diameter breast-height trees to equal 70 sq. ft. BA. Whereas, only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. BA.)

Basal Area can be roughly correlated to crown coverage and therefore needle-cast. About 40 to 60 sq. ft. BA should provide sufficient needle-cast to carry prescribed fire and still allow adequate sunlight for native grasses to be maintained.

The ultimate goal of most fire maintained, natural communities in Florida is to have relatively open, uneven-aged pine stands.

EXISTING TIMBER RESOURCES

Bell Ridge Wildlife and Environmental Area consists of open, mixed aged longleaf pine with an understory of turkey oak, sand live oak, and post oak. The wiregrass ground cover is mostly intact and in good condition.

Timber management activities on the Bell Ridge tract will be long term oriented and infrequent, every 20 years or so, directed at the maintenance of a healthy basal area range of 40 to 60 square feet per acre. The basal area of the stand is a dynamic measurement, changing over time. Through the planned management activities which include prescribe burning and selective hardwood control, longleaf pine basal area will increase over the long term requiring the need for some type of pre-commercial or commercial thinning in order to maintain the basal area in an acceptable range to meet management objectives.

Current Recommendations

Complete a forest inventory of the tract. The intent of this inventory is not to determine the dollar value of the timber, but establish a baseline basal area and diameter distribution for both pine and hardwood. This inventory will also identify areas with little to no longleaf pine stocking and plans can be made for natural or artificial regeneration of longleaf pine. Over the long term, the health and status of the longleaf pine can be monitored, in addition to the long term affects of prescribed burning (reduction of hardwood stems, increase of longleaf pine regeneration, etc.).

Complete a prescribe burn plan. From information gathered in the forest inventory plan, burn rotations of specific burn units may need to be altered in order to promote natural seeding of longleaf pine. This plan will enable the manager to efficiently monitor these burn rotations and prepare future burns.
Much thought and time can be spent discussing the “details” of prescribe burning this tract, but most importantly, safely put fire on the ground on a regular basis whenever the time and weather permits.

**SUMMARY**

Bell Ridge WEA is a unique property and well suited for its intended purpose. Through regularly scheduled and properly timed prescribe burns, conditions for ground cover plants will improve as well as the overall health and long term sustainability of the longleaf pine, making this tract a true gem for the citizens of Florida.
12.7 Recreation Master Plan
Recreation Plan
for
Bell Ridge Longleaf
Wildlife and Environmental Area

Florida Fish and Wildlife Conservation Commission

Office of Public Access and Wildlife Viewing Services
May 2013
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I. Introduction

Purpose of Plan/Planning Process
This Plan serves as a guide for providing recreational experiences with an emphasis on those focused on wildlife viewing and nature study on Bell Ridge Longleaf Wildlife and Environmental Area (Bell Ridge WEA). The Plan contains specific recommendations for recreational trail development and related enhancements such as trailheads and viewing structures. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences. The plan was developed by the Florida Fish and Wildlife Conservation Commission (FWC) Office of Public Access and Wildlife Viewing Services (PAWV) in collaboration with Bell Ridge WEA staff with input from other FWC divisions.

Location
Bell Ridge WEA comprises 720 acres of well maintained sandhills in Gilchrist County (Figure 1). The property is part of an upland physiographic feature called the Bell Ridge just north of the much larger Brooksville Ridge. The WEA exists as an island of native sandhill habitat surrounded by pine plantations and improved pasture. Bell Ridge WEA supports a diversity of wildlife populations that provide opportunities for wildlife viewing and is within 15 miles of several sites on the Great Florida Birding and Wildlife Trail.

Acquisition Purpose
Bell Ridge WEA was approved as an acquisition by the Florida Fish and Wildlife Conservation Commission (FWC) as a Gopher Tortoise (Gopherus polyphemus) Mitigation Park in June, 2007. FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 379.212, F.S., which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife based public outdoor recreation.

II. Resource Inventory

Topography and Hydrology
Bell Ridge WEA has a hilly terrain ranging from 70 to 105 feet in elevation. This is typical of the Bell Ridge which consists of relic sand dunes. There are no water features within the boundary of the WEA. The hilly topography provides potential for scenic views and combined with sandy soils has the potential to provide moderate to strenuous hiking opportunities in some locations within the WEA.
Natural Communities
(Figure 2)
Bell Ridge WEA consists entirely of sandhill community. This community type has an open canopy of longleaf pines with a diverse understory and groundcover dominated by wiregrass. This WEA provides opportunities to interpret high quality sandhill and FWC’s management techniques.

The sandhill communities on Bell Ridge WEA are excellent examples of their type and would be appropriate for interpretation of land management practices and sandhill ecology.

Sensitive Areas
Sandy soils and hilly topography are more likely to be disturbed and eroded by foot traffic. Once destroyed, wiregrass is unlikely to reestablish itself. Also, soil disturbance can introduce weedy or invasive species. To counter this possibility public access will be directed to the existing roads.

Wildlife
Eastern indigo snakes, southeastern American kestrels, and Sherman’s fox squirrels have been identified on the property. In 2006, the gopher tortoise population was measured at 2.25 tortoises per acre. Several bird species including brown-headed nuthatch, red-headed woodpecker, indigo bunting, northern bobwhite, southeastern American kestrel, and pine warbler are also present on the WEA. Bachman’s sparrow has been seen on the WEA and is on FWC’s “Top 40” bird list. Wildlife viewing can be good at almost any spot on the WEA thanks to the relatively open understory.

Cultural Resources
The Florida Master Site File does not contain any archaeological or historic sites within the boundary of Bell Ridge WEA.

Scenic Resources
The sandhills of Bell Ridge WEA provide numerous scenic vistas through the open canopy, especially from the top of the hills. These vistas will be accessible from the scenic routes being designated for the area.

Resource Management
The FWC’s resource management goals for the area include enhancing and maintaining the native sandhill on the WEA. To accomplish this objective, the FWC has instituted a program of prescribed burning and mechanical hardwood tree control. FWC is also controlling non-native invasive plants through mechanical and chemical treatments.
Figure 1: Bell Ridge WEA Location Map
III. Visitor Experience Goals

Bell Ridge WEA offers visitors opportunities to see and learn about the sandhills, their wildlife and wildlife management, while hiking on the area. Visitor experience goals are those concepts and experiences we want visitors to take away from their time at Bell Ridge. These goals guide both interpretive and recreation planning.

At Bell Ridge WEA, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on Bell Ridge WEA while:
   - Becoming acquainted with wildlife and natural plant communities through interpretive materials at welcome kiosks, trails and wildlife viewing sites.
   - Understanding Bell Ridge WEA’s natural, history, within the context of the state’s history and prehistory.
   - Understanding how we are working to conserve gopher tortoises and other species on this WEA that was purchased and established through FWC’s Mitigation Park Program, which used fees paid by developers to purchase high-quality habitat for endangered and threatened species.
   - Appreciating Bell Ridge WEA as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world.

2. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC’s goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.

3. Understand the management goals and activities of the FWC on Bell Ridge WEA and their emphasis on protecting and enhancing sandhill habitats important to upland endangered or threatened wildlife, especially the gopher tortoise.
IV. Recreation Planning Context

Public recreation areas within 15 miles of Bell Ridge WEA:

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<tr>
<th>Area</th>
<th>Hiking</th>
<th>Biking</th>
<th>Camping</th>
<th>Paddling</th>
<th>Fishing</th>
<th>Horseback Riding</th>
<th>Hunting</th>
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</tr>
</tbody>
</table>

V. Recreation Assessment

Recreation Inventory and Enhancements

The purpose of this section is to identify and describe the existing recreational uses and facilities on Bell Ridge WEA and note their status and condition (Figure 3) as well as to propose enhancements to these uses. This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Bell Ridge WEA offers opportunities for quality wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2013-2023 Management Plan, the analysis of existing resources and uses and the interpretive themes developed for the area, the following activities should be continued and enhanced as described in this section. Conditional activities are those that require additional permits or permission.
Astronomy (Conditional)
Ecotourism
Environmental Education
Geocaching (Conditional)
Hiking
Wildlife observation

Visitation to Bell Ridge WEA is not being monitored at this time, and no traffic or infrared counters are installed.

Visitor Contact Points and Roads/Vehicle Access: The main entrance for Bell Ridge WEA is on an unpaved road, NE 65th Avenue. The nearest paved road is County Road 232, about one mile to the south of the entrance. There are no approach signs on either CR 232 or NE 65th Ave. Improvements to parking have been made at the main entrance, including an ADA accessible parking spot with a sidewalk to a kiosk. There is a walk-through just behind the kiosk. A wildlife viewing bench will be considered at this location. A welcome map has been installed in the kiosk and will be updated as new facilities and trails are developed.

Motor vehicles are prohibited within the WEA. The 11.5 miles of roads that are within the area are mostly sand two-tracks or firebreaks.

There is currently no wayfinding signage on interior roads and the roads are not named.

Hunting – Hunting is not an approved activity on Bell Ridge WEA at this time due to the size of the property.

Fishing/Boating/Paddling – There are no fishing, paddling or boating opportunities on Bell Ridge WEA.

Trail Use – Hiking is permitted on all existing roads and firebreaks of Bell Ridge WEA. This activity will also be permitted on proposed designated trails.

Trail Infrastructure – Two designated loop trails will be established by PAWV. The trails will traverse the rolling sandhills on the west portion of the property and will total approximately 2.8 miles. The loop nearest to the parking area is one mile and the other is 1.5 miles. A 0.3 mile trail will connect the parking area with the first loop.

Wildlife Viewing and Nature Study – Wildlife viewing opportunities are available throughout Bell Ridge WEA. The 11.5 mile road network provides access to the sandhills. The sparse understory and well developed pine and oak overstory provide excellent wildlife viewing opportunities. A bench will be installed at the main entrance to allow for passive wildlife viewing.
Picnicking — There are currently no picnic facilities on the WEA. Two picnic tables or covered picnic shelters will be developed along the trail network.

Camping — Permission for primitive camping for organized groups and special events may be sought via a special use permit.

Geocaching — is allowed on the area. There are currently no permitted geocaches on Bell Ridge WEA. Approval of new geocaches and disposition of existing geocaches is at the discretion of the site manager and coordinated by FWC’s Office of Public Access and Wildlife Viewing Services.

Special Events/Tours — There are no regular events at Bell Ridge WEA.

Staff/Volunteers— There is currently a Fisheries and Wildlife Biological Scientist III, a Fisheries and Wildlife Biological Scientist II, and a Wildlife Technician shared between Bell Ridge WEA and other north Florida mitigation parks.

Summary of Proposed Improvements
(Figure 3)
- A 2-3 mile network of marked trails along existing dirt roads and firebreaks
- A bench at the parking area near the walk-through
- Two picnic tables or covered picnic shelters along the trail network
- One or two interpretive signs along the trail network

Carrying Capacity
In order to minimize disturbance of wildlife and other natural resources and to provide an enjoyable experience for visitors, FWC calculates a carrying capacity for its managed areas (Appendix 2). This carrying capacity takes into consideration natural community sensitivity, known locations of sensitive natural communities, known archaeological and historic sites, existing recreation facilities and wildlife disturbance distances with a turnover rate that varies with the activity or facility. This capacity is not a visitation goal but rather a level at which the natural and recreation resources of the area can sustain use without damage. Current capacity for Bell Ridge WEA is 12 people per day. If all planned facilities are constructed, this capacity increases to 56 people per day.
Figure 3: Bell Ridge WEA Existing and Proposed Facilities
Work Plan

PAWV will work with local staff to prepare annual work plans and budgets to implement the Recreational Trail Plan for Bell Ridge WEA. PAWV will be responsible for 1) developing cost estimates for recreation-related facilities; 2) coordinating design and permitting; and 3) obtaining construction bids and the work of contractors during the construction phase. This includes pre-construction meetings, site visits at construction milestones and final reviews. Generally, the area manager and staff monitor construction sites frequently during the construction process to make sure contractor is not doing damage to the surrounding area.

PAWV will design interpretive materials for the area in consultation with management area staff. Generally, the cost of producing maps and interpretive products and maps comes out of the PAWV budget.

1. Short Term
   - Develop a 2-3 mile network of hiking trails on existing roads and firebreaks.
   - Install a bench at main entrance near walk-through.

3. Long Term Completion and Ongoing Tasks
   - Install two picnic tables or covered picnic shelters along designated trail.
   - Install limited interpretive signage along trail, including signage explaining the difference between plantation forestry and the type of management at Bell Ridge WEA.

Monitoring and Management of Recreation Facilities

PAWV will monitor recreation infrastructure on the WEA biannually including trail and structure photopoints. PAWV will also create an annual monitoring report at the end of each fiscal year. Any impacts encountered during each monitoring will be brought to the attention of PAWV and WEA staff to determine the best course of action for correction and prevention.

Measurable indicators for monitoring key aspects of the visitor’s experience and resources at Bell Ridge WEA are described in Appendix 3. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.
References


Appendices.
Appendix 1: Recreation and Wildlife Viewing Facilities Design Guidelines

- **Entrances**
  Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.

- **Viewing structures**
  Structures should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself. For towers, each level should focus visitor attention to a different habitat or feature.

- **Trails**
  Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing, include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season.

General considerations in developing facilities:

- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small "developed" zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.
• Install interpretive signs and panels as appropriate at all recreation facilities.
• Route trails to interpret restoration and wildlife management activities.
• Insure interpretation of highly desired species viewable on the area.

Universal Access

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

• compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
• compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
• compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.
Appendix 2: Carrying Capacity Methodology

FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC’s managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated through this process are not a visitation goal but are a guideline included in the overall area Management Plan and used as a tool to help plan and develop recreation opportunities.

Sensitivity Analysis

An initial analysis of site sensitivity to recreation impacts is conducted using:

- Integrated Wildlife Habitat Ranking System model results for the site
- Natural community values based on threat rankings developed for the Florida Wildlife Legacy Initiative using the rankings for Roads, Incompatible Recreation Activities, and Conversion to Recreation Areas
- Natural community values based on the sensitivity guidelines published by the Florida Park Service
- Wetlands
- Slope
- Soils
- Known point locations of species-of-interest
- Known locations of sensitive resources
- Division of Historic Resources Master Site File sites
- Density of existing roads, trails and facilities
- Other datasets as available and appropriate

These data layers are converted to grids as necessary and normalized to a scale of 1-100. Then a weighted sum is calculated for all data resulting in a “Sensitivity Index” for the area with higher values being more sensitive to disturbance from recreation.

Recreation Zoning
Once the results of the Site Sensitivity model are obtained, a Recreation Zone Map is developed incorporating these results and any statutory or rule constraints for recreation activities. These Recreation Zone Maps will show the different types of recreation experiences appropriate for each zone of the area. This guides potential trail lengths, trail types, types of facilities and other parameters related to recreation infrastructure.

Carrying Capacity Development

For linear recreation facilities (i.e., trails), a physical carrying capacity is developed based on trail length using a 100-meter buffer on either side of the trails. This buffer distance is consistent with the estimated area of wildlife disturbance along the trail. An additional 100-meter buffer is used between potential trail users above and beyond the minimum wildlife disturbance distance to avoid having a continuous disturbance impact along the trail if it were at full capacity. This results in an estimate of 1 user or group every 300 meters along the trail. This estimate is generated using GIS and is adjusted to minimize disturbance “hot spots” such as overlapping disturbance buffers. Point facilities (i.e., observation structures) have a single 100-meter radius buffer. The temporal component of carrying capacity is developed based on the Florida Park Service turnover estimate of two per day on primitive hiking trails or four per day on shorter, improved nature trails. In addition, existing and planned parking and other trailhead limitations are factored into the estimate. If the site already has a Recreation Master Plan (RMP) developed, these estimates will be based on existing and planned facilities as detailed in the RMP. If the area does not have an RMP these estimates are based on potential trail corridors and potential point facility sites derived from the Recreation Zoning and site visits by PAVV and area staff. Another product of this estimate is a Wildlife Habitat Disturbance Index based on the ratio of potentially impacted habitat to impact-free habitat expressed as a percentage of the area potentially impacted by recreation.

Camping Facility Carrying Capacities
- Primitive tent camping with no facilities or limited facilities (fire ring, picnic table): 4 people/site with a turnover of once per day.
- Standard camping site (fire ring, picnic table, improved or paved pad, toilet facilities): 8 people/site with a turnover of once per day.
- Group camping will be 30 people per 5 acres of camping area.

Picnic Areas
- 8 tables/acre and 4 people/table with a turnover twice a day.

Structures
- Structures dependent on trails for access will be included in the calculated trail capacity.
- Structures that can be accessed independently of trails will have a carrying capacity determined on a case-by-case basis based on the type and size of the structure.

Shoreline Fishing Areas
- Shoreline fishing areas will have a capacity of 1 angler per 25 linear feet.

Seasonal Hunting

- For those areas with quota permits the hunting capacity will be established as the greatest number a quota permits issued for any single hunt which will then be doubled to account for guest hunters.
- For those areas with seasonal hunting use and no quota permits carrying capacities range from one hunter per 75 acres to one hunter per 150 acres. The exact density chosen depends on a variety of factors with game management most paramount, but is also influenced by the layout of the area and the chosen hunting framework. Areas with dove fields will have a dove field capacity of one hunter to 1.75 acres of dove fields. This capacity is in addition to the calculated capacity for non-hunting recreation uses.

As needed, capacities for other uses not listed above will use the carrying capacity guidelines published by the Florida Park Service as a baseline.

Recreation Impact Monitoring

To provide a quantitative measure of recreation impacts, limits will be established as “No impact ranks greater than 1”, as observed during each biannual monitoring conducted by PAWV field staff. If any ranking values are greater than 1, the site will be assessed to determine the source of the impact. If impacts are the result of recreation activities (as opposed to facility design or other sources), the carrying capacity will be revisited and corrective measures will be developed by PAWV and area staff.
Appendix 3: Management and Monitoring

Recreation Facility Monitoring Protocol

Florida Fish and Wildlife Conservation Commission
Office of Public Access and Wildlife Viewing Services

Introduction

In order to better plan and manage recreation opportunities on lands managed by the Florida Fish and Wildlife Conservation Commission (FWC), FWC’s Office of Public Access and Wildlife Viewing Services (PAWV) has developed a monitoring program for recreation-related facilities and infrastructure. Using both qualitative and semi-quantitative methods this program will encompass trails, signs, wildlife viewing structures and other facilities. Data obtained through this program will help FWC better plan, construct and maintain facilities to provide the recreation experiences that are meaningful, enjoyable and safe.

Materials

- Digital camera
- Tripod
- Kaidan panoramic photo mount
- VRWorx, or other software for creating panoramic photos
- Monitoring forms
- Tape measure
- Compass
- GPS (loaded with waypoints for monitoring points)
- Hand tools for checking structure hardware

Monitoring Procedures

Photopoints

Panoramic and single photopoints are used to track and document impacts such as trail degradation, corridor condition, structural integrity and vandalism. Single photopoints are taken at use areas to capture the overall condition. Additionally, each amenity and structure has a photopoint associated with it. Panoramic photos are taken at use areas in a central location and at trailheads. Photopoints are predetermined (with the exception of trouble areas along trails), geographically referenced, and consistent. Data are compiled by analyzing panoramas and...
photopoints from each monitoring session and combining the findings with impact indices recorded for each site.

Photopoints should be recorded with GPS, which can also be used to navigate back to the photopoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

Assemble the panoramic photo gear and set the tripod over the photopoint, making sure the panoramic head is level. Standard photopoint height is 60” to the center of the camera lens while mounted on the panoramic mount. This may be modified for some photopoints depending on surrounding vegetation or other considerations, but the new height should be recorded and used each time that photopoint is taken. The easiest way to set the height is to assemble the tripod, panoramic mount and camera on level ground, adjust the legs to their full length and adjust the center column to achieve the proper lens height. The center column can be marked with a permanent marker, tape, or scored with a small file or engraver and each mark should be labeled with the height and camera model. This will have to be done for each different camera that will be used for photopoints, although it is preferable that the same camera be used for all photopoints.

Cameras should be set to full wide zoom, landscape mode if available, with flash off. All photopoints begin with the detent closest to due north and continue in a clockwise direction. A log should be kept to record the photo numbers and their corresponding photopoint.

After downloading the images they should be processed into a flat panorama (a digital image composed of all of the photos for a particular photopoint). These panoramas along with the component images should be kept in a central location organized by WMA, photopoint number, and photopoint date. Parallel photopoints will not need to be processed but should be organized as above.

**Trails**

Trails are monitored with a panoramic photopoint centered at the trailhead, and one photopoint wherever problems areas exist: one photo taken facing forward on the trail and one facing the opposite direction on the trail.¹

**Use areas**

Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area that follows the procedure for trailhead photopoints. The other is a single photo taken from the perimeter of the area. The compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint.

**Structures**

Structures have a single photopoint. This is a single photo, and the compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint. If
desired, a panoramic photo can be taken to represent the view from the structure (such as the top of a tower).

Physical Inspections

- Check for presence or absence (smaller amenities such as fire rings and benches)
- Check for proper location (smaller amenities such as fire rings and benches)
- Inspect for damage (signs and structures)
- Check hardware and tighten or replace if necessary (signs and structures)

Trails should be traversed in their entirety, either on foot for shorter trails or by vehicle for longer trails. Trouble spots (erosion, trail braiding, shortcuts, litter, excess vegetation encroachment, etc.) should be recorded by GPS and noted on the monitoring form.

Monitoring Forms and Record Keeping

Monitoring forms are completed in the field. This can be done electronically using the Recon field computer or manually. If done manually they should be transferred to an electronic version by filling out the form on computer. Completed electronic forms are then placed in the appropriate location on the Project Management Site for that WMA along with any relevant GPS data (converted to Shapfile), photographs, photopoints and other notes.

Any issues that need attention should be sent to the appropriate Recreation Planner via email. The Recreation Planner is responsible for ensuring that the issue is brought to the attention of the appropriate personnel, both internal and external to FWC, and tracking the issue through resolution.
### Litter Impacts

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<td>small areas used for trash dumping or multiple areas of high litter</td>
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<td>5</td>
<td>Very Extensive</td>
<td>large areas used for trash dumping</td>
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### Structure or Amenity Damage

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<td>hazardous damage, rotten supports, severe rust, illegible signs, burnt</td>
</tr>
<tr>
<td>5</td>
<td>Very Extensive</td>
<td>structure is missing or rendered completely ruined/useless</td>
</tr>
</tbody>
</table>

### Trail and Use Area Erosion

<table>
<thead>
<tr>
<th>Rating</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very little</td>
<td>mostly natural groundcover distribution or man-made materials (concrete, aggregate, mulch, etc.)</td>
</tr>
<tr>
<td>2</td>
<td>Some</td>
<td>localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
<td>large areas of bare soil created by use, ruts from vehicles, areas mudded by use, roots partially exposed, heavy hog damage</td>
</tr>
<tr>
<td>4</td>
<td>Extensive</td>
<td>channelization, washout, and/or undercutting banks; roots mostly exposed, deep ruts; trail widening</td>
</tr>
</tbody>
</table>

### Trail Corridor Condition

<table>
<thead>
<tr>
<th>Rating</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Within Standards</td>
<td>minimal vegetation encroachment</td>
</tr>
<tr>
<td>2</td>
<td>Exceeds Standards</td>
<td>trail needs some mowing/lopping/chainsawing; minor tree fall</td>
</tr>
<tr>
<td>3</td>
<td>Unsatisfactory</td>
<td>trail is generally overgrown and difficult to find; tree fall that impedes passage</td>
</tr>
</tbody>
</table>

---

3 Ratings of three and above exceed PAWV standards for structure and amenity damage or litter impacts and trail erosion.
3 Ratings of two and above exceed PAWV standards for trail corridor condition.
WMA Visit Checklist

- Trail maintenance needs
- Sign maintenance needs
- Structure maintenance needs
- Day-use area condition/maintenance needs
- Sufficient PAWY publications in field office
- Brochure boxes adequately stocked
- Hunting calendar posted and up-to-date
- Users encountered on area (number, activity, address for future surveys)
- Geocaches inspected
- Manager concerns
- New ideas for area enhancement
12.8 WCPR Strategy
A Species Management Strategy for
Bell Ridge Longleaf WEA and Branan
Field Mitigation Park WEA

May 2013

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Wildlife and Habitat Management Section
A product of the Wildlife Conservation, Prioritization and Recovery Program
Executive Summary

The Florida Fish and Wildlife Conservation Commission’s (FWC) Wildlife and Habitat Management (WHM) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area system (WMA/WEA). This approach uses information from statewide models, in conjunction with input from species experts and people knowledgeable about the area, to create site-specific assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. The FWC intends for this Strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based process for evaluating focal species needs using an ecosystem management approach on the Bell Ridge Longleaf Wildlife and Environmental Area (BRL WEA) and Brannon Field Mitigation Park Wildlife and Environmental Area (BFWEA). Natural community management designed for a set of focal species benefits a host of species reliant upon the same natural communities. Monitoring selected species verifies whether natural community management is having the desired effect on wildlife. To maximize the potential wildlife conservation benefit, staff considers the role of the WMA in regional and statewide conservation initiatives throughout the process.

Section 1 informs the reader about the process used to generate this document.
Section 2 describes the historic and ongoing management actions on the properties.
Section 3 provides a list of the focal and listed species on the area, and an assessment of each species’ level of opportunity and need. This includes species-specific objectives that were identified for the gopher tortoise, southeastern American kestrel, Florida mouse, and rare plants.
Section 4 describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. This section also discusses management necessary to ensure continued persistence of focal species.
Section 5 describes species-specific management and monitoring actions prescribed for the area, and identifies any research that would be necessary to guide future management efforts. Monitoring is recommended for the gopher tortoise, southeastern American kestrel, and Florida mouse. Documentation of observations of other focal and listed species is recommended.
Section 6 identifies coordination that will assist in conserving these focal species. We identify coordination with 4 other units in FWC and inter-agency coordination with 3 other entities.
Section 7 describes efforts that should occur “beyond the area’s boundaries” to ensure conservation of the species on the area.
Continuation of current resource levels would be required to provide for most of the land management recommended in this document. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with continuation of existing resources.
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</tr>
</thead>
<tbody>
<tr>
<td>ARCI</td>
<td>Avian Research and Conservation Institute</td>
</tr>
<tr>
<td>BFWEA</td>
<td>Branigan Field Wildlife and Environmental Area</td>
</tr>
<tr>
<td>BRLWEA</td>
<td>Bell Ridge Longleaf Wildlife and Environmental Area</td>
</tr>
<tr>
<td>CFCC</td>
<td>Cecil Field Conservation Corridor</td>
</tr>
<tr>
<td>CPS</td>
<td>Conservation Planning Services (office; formerly Habitat Conservation Scientific Services)</td>
</tr>
<tr>
<td>DBH</td>
<td>diameter at breast height</td>
</tr>
<tr>
<td>DFC(s)</td>
<td>Desired Future Condition(s)</td>
</tr>
<tr>
<td>FFS</td>
<td>Florida Forest Service (formerly Division of Forestry)</td>
</tr>
<tr>
<td>FNAI</td>
<td>Florida Natural Areas Inventory</td>
</tr>
<tr>
<td>FWC</td>
<td>Florida Fish and Wildlife Conservation Commission</td>
</tr>
<tr>
<td>FWLI</td>
<td>Florida's Wildlife Legacy Initiative</td>
</tr>
<tr>
<td>FWRI</td>
<td>Fish and Wildlife Research Institute</td>
</tr>
<tr>
<td>JSF</td>
<td>Jennings State Forest</td>
</tr>
<tr>
<td>MU</td>
<td>Management Unit</td>
</tr>
<tr>
<td>NC</td>
<td>Natural Community</td>
</tr>
<tr>
<td>OBVM</td>
<td>Objective-Based Vegetation Management</td>
</tr>
<tr>
<td>PLCP</td>
<td>Public Lands Conservation Planning (project)</td>
</tr>
<tr>
<td>PVA</td>
<td>Population Viability Analysis</td>
</tr>
<tr>
<td>SCP</td>
<td>Species Conservation Planning (section)</td>
</tr>
<tr>
<td>SMA</td>
<td>Strategic Management Area</td>
</tr>
<tr>
<td>TNC</td>
<td>The Nature Conservancy</td>
</tr>
<tr>
<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
</tr>
<tr>
<td>WCPR</td>
<td>Wildlife Conservation Prioritization and Recovery</td>
</tr>
<tr>
<td>WEA</td>
<td>Wildlife and Environmental Area</td>
</tr>
<tr>
<td>WHCNiFL</td>
<td>Wildlife Habitat Conservation Needs in Florida</td>
</tr>
<tr>
<td>WHIM</td>
<td>Wildlife and Habitat Management (section)</td>
</tr>
<tr>
<td>WMA</td>
<td>Wildlife Management Area</td>
</tr>
</tbody>
</table>
### Statewide Species Prioritization Parameters

This table provides the values for the 6 prioritization parameters for the focal species. Parameters that are "triggered" (exceed the threshold) are in **bold**. Typically, the more parameters a species triggers, the higher the statewide prioritization.

<table>
<thead>
<tr>
<th>Species Common Name</th>
<th>Millsap Report, 2008</th>
<th>Legacy Initiative</th>
<th>PVA on managed lands</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Biological Score¹</td>
<td>Supplemental Score²</td>
<td>Population Status³</td>
</tr>
<tr>
<td>Frosted Flatwoods Salamander</td>
<td>24.3</td>
<td>16</td>
<td>low</td>
</tr>
<tr>
<td>Striped Newt</td>
<td>29</td>
<td>20</td>
<td>low</td>
</tr>
<tr>
<td>Florida Pine Snake</td>
<td>23.7</td>
<td>15</td>
<td>medium</td>
</tr>
<tr>
<td>Gopher Tortoise</td>
<td>27.3</td>
<td>17</td>
<td>medium</td>
</tr>
<tr>
<td>American Swamp-tailed Kite</td>
<td>25.7</td>
<td>13</td>
<td>low</td>
</tr>
<tr>
<td>Bachman’s Sparrow</td>
<td>16.0</td>
<td>12</td>
<td>medium</td>
</tr>
<tr>
<td>Brown Headed Nuthatch</td>
<td>17.0</td>
<td>13</td>
<td>medium</td>
</tr>
<tr>
<td>Cooper’s Hawk</td>
<td>15.0</td>
<td>12</td>
<td>not a SGCN⁷</td>
</tr>
<tr>
<td>Northern Bobwhite</td>
<td>11.0</td>
<td>14</td>
<td>low</td>
</tr>
<tr>
<td>Southeastern American Kestrel</td>
<td>28.0</td>
<td>14</td>
<td>low</td>
</tr>
<tr>
<td>Wading Birds</td>
<td>23.7</td>
<td>13</td>
<td>varying</td>
</tr>
<tr>
<td>Florida Black Bear</td>
<td>32.7</td>
<td>13</td>
<td>medium</td>
</tr>
<tr>
<td>Florida Mouse</td>
<td>22.0</td>
<td>19</td>
<td>medium</td>
</tr>
<tr>
<td>Sherman’s Fox Squirrel</td>
<td>24.0</td>
<td>17</td>
<td>low</td>
</tr>
<tr>
<td>Southeastern Myotis</td>
<td>22.6</td>
<td>16</td>
<td>medium</td>
</tr>
</tbody>
</table>

¹ Species trigger this parameter if the score is ≥ 25.9
² Species trigger this parameter if the score is ≥ 15
³ Species trigger this parameter if the score is ≥ low or unknown (unk)
⁴ Species trigger this parameter if the score is ≥ declining (decl) or unknown (unk)
⁵ Species trigger this parameter if the score is > 0
⁶ Species trigger this parameter if the score is ≤ 75%
⁷ SGCN = species of greatest conservation need
Section 1: Introduction

The FWC manages the lands in the Wildlife Management Area system using a proactive approach, which includes an understanding of natural communities of plants and animals. As applied by FWC, natural community management starts by classifying lands into distinct natural communities that we then manage in a way that maintains or enhances the communities’ unique structure and function. This ecological management of natural communities improves and restores the habitats upon which wildlife depends. Land management that has a positive influence on the natural community condition benefits the wildlife living in those habitats.

Another important aspect of FWC’s management approach is ensuring that it is science-informed and meets the needs of Florida’s wildlife. The agency’s Wildlife Conservation, Prioritization, and Recovery Program (WCPR) created this Species Management Strategy for BRLWEA and BFWEA to inform and guide management on the areas, and to verify that area management is meeting the needs of wildlife. The FWC intends for this Strategy to: 1) provide land managers with information on management actions that should be taken provided the necessary resources are available; 2) promote the presence and facilitate the persistence of wildlife species on the area; and 3) provide measurable objectives that can be used to evaluate the success of wildlife management on the area.

When developing a Strategy, WCPR staff utilizes concepts that facilitate the analysis and evaluation of an area’s opportunities to manage for wildlife. The focal species concept is an approach to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species FWC selected as focal species includes umbrella species, keystone species, habitat specialist species, and indicator species. Other concepts in a Strategy include Objective Based Vegetation Management and Strategic Management Areas. Objective Based Vegetation Management (OBVM) is a method used to assess if vegetation management within natural communities is achieving the desired conditions. A Strategic Management Area (SMA) is a specially designated piece of land where additional management actions are required to address a particular species’ needs.

In addition to the concepts discussed above, we use specific definitions in a Strategy. Goals are broad statements of a condition or accomplishment to be achieved; goals may be unattainable, but provide direction and inspiration. Objectives are a measurable, time-specific statement of results responding to pre-established goals. Imperiled Species refers to any plant or animal federally listed under the Endangered Species Act, or state-listed by the Florida Fish and Wildlife Conservation Commission or the Department of Agriculture and Consumer Services.

Creating the BRLWEA and BFWEA Strategy involved a number of steps. First, staff assessed the results of species-specific habitat models and statewide potential habitat maps for focal species to determine which focal species had potential habitat on BRLWEA and BFWEA. We then used staff knowledge, species-expert opinions, and area-specific natural community maps, to modify the statewide models to create area-specific potential habitat maps for each focal species on the areas. Next, we conducted a workshop at which focal staff, species experts, and section leaders discussed and evaluated BRLWEA’s and BFWEA’s potential roles in the conservation of focal species. For each species, workshop participants determined the status of the species on the areas; evaluated the opportunities for management on the areas; specified appropriate monitoring and research actions; and
identified beneficial coordination and "beyond the boundary" considerations. Using the information from the workshop, staff drafted the Strategy document and sent it to species experts and other professionals for review. Following the review, the Strategy was finalized and staff initiated implementation of actions in the Strategy.

Neither of these WEA has an Acquisition and Restoration Council approved management plan. As such, having an existing Wildlife Strategy will assist in developing imperiled species related actions and objectives once the process of management plan development is initiated.

While this Strategy focuses on BRLWEA and BFWEA, it considers the role of each area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. Natural community management is the core of FWC's ecological management approach, and by paying special attention to the needs of focal and imperiled species, we verify that our management actions are having the desired effect. By implementing the actions in the Strategy, the FWC believes our management will keep common species common, aid in the recovery of listed species, and benefit the largest suite of native wildlife.

Section 2: Historic, Current, and Planned Management on Bell Ridge and Branan Field Wildlife and Environmental Areas

Both of these properties were acquired under FWC's Fish and Wildlife Habitat Program pursuant to s. 372.074, F.S. The FWC established the Mitigation Park program to provide an offsite compensation alternative to state and federal listed species regulatory decisions. Because of the regulatory and mitigation nature of this program, management activities at mitigation park facilities emphasize the maintenance and restoration of optimum listed species habitat above all other uses and activities.

No staff is assigned specifically to these properties. Rather, a staff that includes 1 Biological Scientist III, 1 Biological Scientist II, and 1 Biological Technician is responsible for the management of Ft. White WEA (1,328 ac., Gilchrist Co.), Suwannee Ridge WEA (1,429 ac., Hamilton Co.), BRLWEA (720 ac., Gilchrist Co.), BFWEA (386 ac., Duval/Clay Cos.), and Lafayette Forest WEA (2,148 ac., Lafayette Co.). Management of 5 areas in 5 counties presents challenges to the assigned staff and requires assistance from additional regional staff. While BRLWEA is within 15 miles of the Ft. White Field Office, BFWEA is in Duval County approximately 85 miles away.

2.1: Location, Acquisition, and Influences on Current Condition

\textit{Bell Ridge Longleaf WEA} – BRLWEA, situated 8 miles southwest of High Springs, encompasses 720 acres in eastern Gilchrist County. Access to the property from the east is by County Road 337 or from the west by NE 65 Avenue. The surrounding area is a mix of natural pine, pine plantation, irrigated row-crop agriculture, pasture, and rural residential land use.

The FWC purchased BRLWEA in 2008 from The Nature Conservancy (TNC) under the Fish and Wildlife Habitat Program. The regulatory and mitigation directives of the Fish and Wildlife Habitat Program guide the management activities at BRLWEA and require
management that emphasizes the restoration and maintenance of optimum habitat for listed species.

TNC acquired the tract in 1991 from the Galloway family who still owns and manages the 3,000-acre Canaan Ranch to the west. The Galloway family used dormant season fire on a regular basis to manage the property for northern bobwhite (Colinus virginianus) hunting and for selectively-harvested high value timber products such as poles, peeler logs, and saw logs. As a result, BRLWEA contains natural second-growth longleaf pine (Pinus palustris) with intact native ground cover. After TNC’s acquisition of the property, fire frequency decreased and hardwood trees and shrubs began to increase in density and coverage.

While the Bell Ridge tract is small and isolated from other public conservation lands, the adjacent Canaan Ranch property is enrolled in the United States Fish and Wildlife Service (USFWS) red-cockaded woodpecker (Picoides borealis) Safe Harbor program and is managed for conservation, with an emphasis on management to enhance northern bobwhite habitat. The extensive use of frequent prescribed fire on Canaan Ranch in all longleaf pine with intact native ground cover increases the availability of high quality habitat to many of the focal species found on BRLWEA.

Broun Field WEA – BFWEA encompasses 386 acres in southern Duval and northern Clay Counties, situated 2 miles west of Chaffee Road (SR 23) in Jacksonville and 9 miles north of Middleburg. Oakleaf Plantation Boulevard via the Cecil Field connector accesses the property from the east. The surrounding area is a mix of pine plantation, airport, light industrial, commercial, and residential land use.

The site was purchased in 1990 from the Trust for Public Land under FWC’s Fish and Wildlife Habitat Program. The Trust for Public Land acquired the site in 1989 from Gulfstream Properties, Inc. Gulfstream Properties, Inc. managed the site as an industrial pine plantation and for cattle grazing. Between 1980 and 1986, the area was cleared and slash pine (Pinus elliottii) plantations were established with approximately 700 trees per acre. While there is no evidence that the previous owners used prescribed fire on the tract subsequent to plantation establishment, the native ground cover on the tract remained intact and has responded well to the reintroduction of regular prescribed fire.

Cecil Field airport is on the north half of BFWEA’s western boundary and Cecil Field Conservation Corridor (CFCC) is on the south half of the western boundary. Formerly part of Cecil Field Naval Air Station, CFCC is 5,300 acres that consists of primarily pine plantations and wetlands. The CFCC forms a corridor from Jennings State Forest (JSF) north, along the west side of Cecil Field, to Interstate 10. When Cecil Field Naval Air Station closed in 2000, the land contained in the CFCC was deeded to the City of Jacksonville for conservation and public recreation. The Florida Forest Service (FFS) manages the CFCC for the City of Jacksonville. Other nearby public land includes the JSF, Camp Blanding Military Reservation, Salt Taylor Creek Preserve, and McGirt Creek Preserve.

The Cecil Field airport has a very large, deep drainage ditch parallel to the east side of the runway. The ditch turns 90 degrees at the south end of the runway and traverses east bisecting BFWEA and ending in a wetland on private property to the east. This drainage ditch has altered the hydrology of the area and changed the hydroperiod of the ephemeral wetlands and flatwoods adjacent to the ditch. Most of the xeric natural communities on the
area have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands.

Private property borders BFW EA on the north, east, and south, and 6,400 acres of this land is a planned unit development known as Oakleaf Plantation. Oakleaf Plantation is currently completing the infrastructure for mixed-use development with development planned to within 0.25 mile of the eastern boundary of BFW EA. According to the Oakleaf Plantation site plan, this 0.25-mile buffer will be managed for silviculture with wetland areas designated as nature preserve. A golf course, high school, commercial town center, police and fire stations, multi-family housing, and single-family housing are completed; additional housing units and a second commercial town center are planned. The ongoing residential and commercial development in the area will make prescribed fire more challenging and will increase the potential for feral cats and dogs to influence wildlife.

2.2: Management and Monitoring Since State Acquisition – BRL WE A

Sandhill is the only natural community on BRLWEA, occurring on all 720 acres. All of BRLWEA's sandhill community remains in good condition with intact ground cover and the Florida Natural Areas Inventory (FNAI) identified a sandhill community reference site on the area. The FNAI will add the data they collected on BRLWEA to their Reference Natural Community Website in the spring of 2013. Most of BRLWEA’s focal species are adapted to open-canopied uplands with fire-maintained herbaceous ground cover. Therefore, frequent fire is essential to maintaining suitable habitat for these species.

A decrease in the use of prescribed fire from 1993 to 2008 resulted in artificially high amounts of hardwoods. The removal of the small oaks was necessary to prevent shading of ground cover and facilitate fire management. During the early growing season of 2009, FWC implemented a project to control the excess small hardwoods while retaining appropriate mature hardwoods. Hand crews used chainsaws to cut down excess small oaks on 632 acres. To prevent re-sprouting, crews applied a Carlon treatment to the cut stumps. Basal treatment of small oaks with Velpar-L was used on an additional 66 acres.

The FWC is implementing a prescribed burn program to prevent hardwood encroachment, lessen the chances of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. BRLWEA contains 720 acres of fire-maintained sandhill natural community. Intact native ground cover provides the continuous fine fuels required to maintain frequent prescribed fire. Since State acquisition, FWC has conducted prescribed burns on all fire maintained acres at least twice, reestablishing a 2-3 year fire return interval. BRLWEA is now in a maintenance condition and the continued use of prescribed fire on a 2-3 year return interval will be the primary tool used for management. Growing season burns are preferred, but occasional dormant season burns are necessary to reduce excessive fuels or maintain fire frequency when conditions do not permit the safe application of fire in the growing season.

FNAI conducted a floristic assessment in May of 2009. This survey identified 109 species of plants on BRLWEA. Sandhill spiny-pod (Matula pubiflora), listed as endangered by the state, was the only rare plant identified. Small groups of this plant occur across BRLWEA. Other rare plant species may occur on BRLWEA in the future, particularly species that were dormant or have different flowering phenology such that they were not found in the 2009 assessment.
Surveys noted 2 exotic species, a single camphor tree (*Cinnamomum camphora*) and a single sapling mimosa (*Albizia julibrissin*). The camphor tree, a Florida Exotic Pest Plant Council (FLEPPC) Category I species, was located along the southeastern boundary. The mimosa, a FLEPPC Category II species, was identified near the center of the property. Staff treated these individuals and will monitor periodically for these and other invasive exotic plants.

Recreational activities on BRLWEA include hiking and bird watching. BRLWEA, which is open to the public year round, has a handicapped accessible parking area with an informational kiosk. No hunts occur on BRLWEA, primarily due to the small size of the unit.

Wildlife monitoring by FWC on BRLWEA includes gopher tortoise (*Gopherus polyphemus*) surveys, Florida mouse (*Peromyscus floridanus*) surveys, and southeastern American kestrel (*Falco sparverius pallidus*) nest box monitoring. The survey results are included in the species assessments. Proposed species monitoring (Section 5.2) on BRLWEA includes continued monitoring of kestrel nest boxes, surveys for Florida mice, and gopher tortoise burrow surveys.

### 2.3: Management and Monitoring Since State Acquisition – BFWEA

The FNAI completed plant community mapping at BFWEA as part of FWC’s OBVM program (Table 1). Sandhill, and mesic flatwoods are the actively managed natural communities on BFWEA. Basin swamp, xeric hammock, depression marsh, ruderal, and dome swamp are other natural communities embedded within, or adjacent to, actively managed communities that are subject to management activities. The FWC uses prescribed fire, along with mechanical and chemical vegetation control, in the actively managed communities on BFWEA. Through the OBVM process, staff delineated management units and defined Desired Future Conditions (DFCs) for these actively managed natural communities. Many of BFWEA’s focal species are adapted to open canopied uplands with fire-maintained herbaceous ground cover; therefore, frequent fire is essential to maintaining suitable habitat for these species. Additionally, several of the focal species require fire-maintained ephemeral wetlands with grassy ecotones occurring in these upland habitats.

The primary management activity on BFWEA is the continued use of prescribed fire. The previously suppressed ground cover has recovered with the resumption of fire management and removal of the closed pine canopy. An intact ground cover provides the continuous fuels required to maintain frequent growing season fire.

The FWC is implementing a prescribed burn program to reduce fuel loads, decrease the chance of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. BFWEA contains 343 acres of fire-maintained natural communities. To date, FWC has treated all fire-maintained acres on a 2-3 year fire return interval. As a result, all fire-maintained acres have burned 5-6 times since acquisition. Growing season burns are preferred, but occasional dormant season burns are necessary to reduce excessive fuels or maintain fire frequency when conditions do not permit fire in the growing season. Staff enlarged perimeter firebreaks to a 30 foot width in 2006 to allow improved access and to increase safety for prescribed burn crewmembers.

At the time of acquisition, BFWEA was a pine plantation that consisted of densely planted off-site slash pine. The trees were about 10 years away from merchantability and...
canopy closure was beginning to shade out the desirable ground cover. In 1992, staff intentionally used a hot prescribed fire as a pre-commercial thinning technique for young slash pine plantations in management unit (MU) BF2. The objective for the burn was to achieve 80% kill of pines. However, heavy rains after the burn limited kill to approximately 60%. In 1993, area managers contracted the planting of 20,000 longleaf seedlings in MU BF2 (approximately 400 trees per acre) to replace the off-site slash pine that was killed and to initiate stand conversion. During 1998, staff used a timber sale to remove approximately 75% of the standing timber in MUs BF1, BF3, and BF4 to open up the canopy and promote understory growth for the benefit gopher tortoises and other wildlife.

Table 1. Mapped acreage of current and historic communities on BFWEA, including management status and the number of focal species that use the community.

<table>
<thead>
<tr>
<th>Community Type</th>
<th>Estimated Current Acreage</th>
<th>Estimated Historic Acreage</th>
<th># of focal species that use the NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basin swamp</td>
<td>22</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Depression marsh</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Dome swamp</td>
<td>20</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Mesic flatwoods</td>
<td>131</td>
<td>131</td>
<td>9</td>
</tr>
<tr>
<td>Raderal</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sandhill</td>
<td>83</td>
<td>86</td>
<td>10</td>
</tr>
<tr>
<td>Wet flatwoods</td>
<td>125</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>Wet Prairie</td>
<td>0</td>
<td>76</td>
<td>3</td>
</tr>
<tr>
<td>Xeric hammock</td>
<td>3</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>TOTAL ACRES</td>
<td>386</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Actively managed communities monitored via the OBVM process. Other communities may be managed, but are not be monitored via OBVM.

Exotic species observed on BFWEA include Chinese tallow tree (*Sapium sebiferum*) and feral hogs (*Sus scrofa*). Chinese tallow trees occupied a single patch along the ditch that traverses BFWEA draining the Cecil Field runway. Staff treated the tallow tree area in 2006. Staff regularly monitors this area, and has not observed any new tallow trees since that treatment. The feral hog problem is not severe.

Recreational activities occurring on BFWEA include hiking and bird watching. BFWEA has an informational kiosk and signage, a system of well-marked hiking trails, and limited parking. No hunts occur on BFWEA, primarily due to the small size of the unit. Due to the small size of the area as well as the distance from the Ft. White field office, current species monitoring on BFWEA is limited to *gopher tortoise* surveys and a *Florida mouse* survey. Gopher tortoise burrow surveys are conducted every 5 years to track population trends. Staff conducted a Florida mouse survey in February 2012, but did not catch any Florida mice. More details on these monitoring efforts are included in the species assessments.
Section 3: Area Focal Species

The FWC’s management approach focuses on maintaining and restoring the ecological form and function of natural communities. However, in some instances, it is important to consider the needs of specific wildlife species and to monitor the influences of natural community management on these species. To achieve a science-informed approach to species management, the FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida (WHCNIFL) project. This concept allows one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species selected includes umbrella species, keystone species, habitat specialist species, and indicator species.

The Public Lands Conservation Planning (PLCP) project, an expansion of the WHCNIFL project, added a few species and provided potential habitat modeling on public lands. For the PLCP, the FWC selected 60 focal species (including 1 group of species: the wading birds) for which potential habitat models were created to generate statewide potential habitat maps for each focal species. The FWC’s 2003 landcover data served as the base layer for all potential habitat models, and staff selected additional layers considering the particular natural history of each species (e.g., species’ range, known occurrence records); as such, each model is species specific. Once statewide potential habitat maps were completed, a Population Viability Analysis (PVA) was conducted for each focal species.

The statewide landcover-based habitat models identified 15 of the 60 focal species to have potential habitat on BRLWEA and BFWEA (Section 3.1). For all focal species modeled to have potential habitat on the WEAs, staff created more accurate area-specific potential habitat maps by using the same statewide models but replacing the landcover data with area-specific natural community data. The resulting area-specific potential habitat maps were then refined based on the input of local managers and species experts.

The WCPR Workshop for the North Central Region WEAs, held September 16-17, 2009, brought decision makers together to assess species’ opportunities and needs, identify measurable objectives, outline necessary coordination efforts, and determine required actions such as monitoring. To facilitate informed discussion of the species, WCPR staff compiled a workbook that contained information on the focal species. Participants at the workshop discussed the “level of opportunity and need” for each species. This included considering the number of statewide prioritizations the species triggered (Statewide Species Prioritization Table), the species’ listing status, and the long-term security of the species (i.e., examining PVA results). Other factors considered were the species’ use of actively managed communities (Table 1), species’ response to management, and any local overriding factors (e.g., status of species in the region, local declines or extirpations). A brief summary of the opportunity and need assessments for each focal species is available in Section 5.2.

3.1: BRLWEA and BFWEA Focal Species List

Workshop participants assessed 15 species for their level of opportunity or need on BRLWEA and BFWEA. In the following species list, we use a 1 to denote species for which a measurable objective is identified, a 2 for species for which some level of monitoring is recommended, a 3 for species for which a SMA is recommended, and a 4 for species for which management is recommended. Because these conservation lands are separated
by a long distance, some species have potential on only one of the areas. We use a * to indicate species that only have potential on BRLWEA, and a † for species that only have potential on BFWEA. Workshop participants and expert reviewers determined that ongoing management would meet the needs of these species, except for those species identified with a superscript number. Therefore, for species with no numerical superscripts, participants and reviewers agreed there is no need for measurable objectives, monitoring, SMAs, or species-specific management.

Occasionally, statewide models indicate a species has potential habitat on the area, but the local assessment indicates there is little opportunity to manage for these species. These limited opportunity species are denoted with an *.

Frosted flatwoods salamander (*Ambystoma cingulatum*)

Striped newt (*Notophthalmus perstriatus*)

Florida pine snake (*Pituophis melanoleucus maginus*)

Gopher tortoise (*Gopherus polyphemus*)

American swallow-tailed kite (*Elanoides forficatus*)

Bachman’s sparrow (*Pooecetes [Aimophila] aestivalis*)

Brown-headed nuthatch (*Sitta pusilla*)

Cooper’s hawk (*Accipiter cooperii*)

Northern bobwhite (*Colinus virginianus*)

Southeastern American kestrel (*Falco sparverius paustus*)

Wading birds (*Multiple spp.*)

Florida black bear (*Ursus americanus floridanus*)

Florida mouse (*Peromyscus floridanus*)

Sherman’s fox squirrel (*Sciurus niger shermani*)

Southeastern bat (*Myotis austroriparius*)

3.2: Focal Species Opportunity and Needs Assessment

This section provides an assessment of each focal species’ need and opportunity for management. The assessment considers a number of attributes, including the status of a species, the number of prioritization parameters it triggers, the species’ response to management, and the amount and spatial arrangement of species’ potential habitat available on the area. Because all federally listed wildlife species are FWC-listed, we will provide only the federal listing status for federally listed species. When a species is not federally listed but is FWC-listed, we will provide the FWC listing status. The FWC is currently in the process of developing management plans for FWC-listed species. Staff will review these plans to determine if the content warrants a revision to any of these assessments and will revise this Strategy as warranted.

Unless otherwise noted, all reported acres of potential habitat are the result of using the area-specific natural community data in the species’ potential habitat model. These estimates include all the area mapped as potential habitat, including patches that may not be contiguous with other suitable habitat. During the workshop, participants considered the
spatial arrangement and habitat patch size when assessing the potential role BRLWEA and BFWEA play in the conservation of each species. For species that require larger habitat patches, we considered the continuity and condition of habitat on lands adjacent to the WEAs. To determine the restoration potential, we inserted the historic natural community data into the potential habitat models and generated the acres of potential habitat that could be obtained if all natural communities are restored.

3.2.1: Frosted Flatwoods Salamander

The USFWS recently recognized the flatwoods salamander (*Ambystoma cingulatum*) to be 2 distinct species; the frosted flatwoods salamander (*A. cingulatum*), which occurs east of the Apalachicola River, and the reticulated flatwoods salamander (*A. bishopi*), which occurs west of the Apalachicola River. The USFWS lists the frosted flatwoods salamander as threatened, and the reticulated flatwoods salamander as endangered.

Managing habitat for frosted flatwoods salamanders requires frequent prescribed fire and protection of the hydrological integrity of ephemeral wetlands, which are essential for breeding. The maintenance of a continuous herbaceous ground cover from the uplands through the ecotone and into the wetlands is especially important for this species.

As evaluated prior to the taxonomic revision, the species triggers 4 of the 6 prioritization parameters (*priorities table*). Because many of the prioritization parameters were calculated prior to the recognition that the flatwoods salamander was 2 distinct species, it is possible that if the prioritization scores for these species were calculated reflecting the recent taxonomic revision, the 2 species may trigger more prioritization parameters.

No potential habitat for the frosted flatwoods salamander occurs on BRLWEA, and this species is not a focal species for BRLWEA. Models indicate 276 acres of potential habitat for the frosted flatwoods salamander on BFWEA. The frosted flatwoods salamander has not been searched for and is not documented on BFWEA. There are currently no plans for FWC herpetologists to survey BFWEA, which they consider a low priority for this species. The nearest known occurrence of the species is from a 1982 record of the species approximately 7 miles north of Cecil Field Airport on what is now the CFCC. While the JSF has modeled potential habitat for the frosted flatwoods salamander, the species has not been observed on the property.

While the literature does not identify how much habitat is required to support a population of flatwoods salamanders, it is unlikely BFWEA has enough potential habitat to independently sustain a population of this species. If a population remains on CFCC or JSF, the habitat on BFWEA can help support this local population.

The goal on BFWEA is to maintain suitable habitat for the frosted flatwoods salamander that would allow the area to help support a regional population should they occur on adjacent public lands. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. If frosted flatwoods salamanders occur on or near BFWEA, ongoing natural community management focused on frequent growing season prescribed fire will improve habitat conditions for this species. Growing season prescribed fire will promote herbaceous growth in the uplands as well as in ephemeral wetlands and create conditions compatible with this species’ needs. Additional land management considerations can be found in *Section 4.3.1*.
3.2.2: Florida Pine Snake

There is no documentation of Florida pine snakes (*Pituophis melanoleucus mucronatus*) on BRLWEA or BFWEA, but no effort has been made to systematically survey either site for herpetofauna other than the gopher tortoise. The Florida pine snake has been documented on private lands adjacent to BRLWEA, and the surrounding landscape is well suited for pine snakes. Therefore, it is likely the species uses BRLWEA. There are no observations of Florida pine snakes near BFWEA, and there is little suitable habitat in the surrounding landscape.

Specific habitat requirements of this species are not well defined, except it is most closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations with sandy soils dominated by pines and a well-developed grassy understory, though they have been documented in a number of plant communities. Southeastern pocket gophers (*Geomys pinetis*) are a preferred prey item. Florida pine snakes are commonly found in pocket gopher burrows but also may be found in stump holes and, occasionally, in gopher tortoise burrows. Southeastern pocket gopher burrows are evident on all of BRLWEA but are less common on BFWEA.

The Florida pine snake triggers 3 of 6 prioritization parameters (priorities table) and is an FWC-listed species of special concern. Based on a recent biological status review, the pine snake will be a threatened species after approval of the management plan that is currently in development. According to the literature, pine snakes and eastern indigo snakes (*Drymarchon couperi*) have similar home range sizes, and at least 2,471 acres of suitable habitat are required to support a viable population of pine snakes. Models identified 720 acres of potential habitat on BRLWEA and only 86 acres on BFWEA. BRLWEA has enough potential habitat in good condition to provide a significant contribution to the local population. Continued use of frequent prescribed fire will benefit this species. Privately owned property near BRLWEA is in fair to good condition for this species. The persistence of the Florida pine snake on BRLWEA is dependent upon management decisions made by private landowners. Therefore, we recommend coordination with Conservation Planning Services (CPS) staff to ensure cooperation with surrounding landowners in conservation efforts (Section 6.1.4).

Potential habitat on BFWEA is in good condition, but this habitat is isolated from potential habitat on CFCC and JSF. Most of the surrounding private land is under development and is unsuitable. Further, most of the xeric natural communities on BFWEA have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands. Because Florida pine snakes prefer sandy, xeric soils, it is possible BFWEA was never high quality pine snake habitat. Since the opportunity for conserving the Florida pine snake on BFWEA is limited, no goal is recommended.

Management actions that maintain or enhance habitat for this species include prescribed fire and ground cover restoration treatments that aid in restoring sandhill and associated natural communities. Stumps and other coarse woody debris should be retained during land management activities (Section 4.3.2).

Because there is no adequate monitoring technique available for this species, opportunistic monitoring is recommended (Section 5.2.4) on both WEAs. If resources are available to conduct drift-fence surveys on the WEAs, the use of large snake traps in addition to funnel and pitfall traps is recommended. Drift-fence surveys should be repeated at
approximately 10-year intervals, if resources are available. While these surveys will not provide population level information, they can produce indices to the relative abundance of terrestrial herpetofaunal species.

The goal on BRL WEA is to continue to manage habitat to support pine snakes. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species on BRL WEA is dependent on conditions that influence the regional population. However, the occurrence of large tracts of well-managed private lands, including lands managed for conservation, increases the opportunity for Florida pine snakes to persist on BRL WEA.

3.2.3: Gopher Tortoise

The FWC purchased BRL WEA and BFWEA to secure habitat for the gopher tortoise and other upland species as mitigation for habitat loss to land development activities. As such, management to benefit this species is the priority. Staff conducted a gopher tortoise survey on BRL WEA prior to acquisition and estimated a density of 2.25 tortoises per acre. On BFWEA, a survey by staff in 2012 yielded a density estimate of 1.03 tortoises per acre. While this is lower than the estimate of 1.4 tortoises per acre in 2006, or the estimate of 1.5 tortoise per acre in 1994, these densities are within the range of average densities in good gopher tortoise habitat. These densities, coupled with evidence of reproduction and recruitment, indicate a sustainable population.

The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. It prefers xeric upland communities maintained with fire, which helps perpetuate the ground cover on which it feeds. The gopher tortoise is often considered a keystone species because many other species use their burrows, including focal species such as the Florida mouse and gopher frog. This species is listed as threatened by the FWC and triggers 4 of 6 prioritization parameters (priorities table). The FWC gopher tortoise management plan, revised in 2012, places emphasis on increasing the number of tortoises on public lands.

Models indicate 720 acres of potential habitat on BRL WEA. On BFWEA, models only consider 86 acres of sandhill as potential habitat, but gopher tortoises inhabit an additional 131 acres mapped as mesic flatwoods. There is discussion in the literature about the minimum requirements to sustain a population of gopher tortoises, with estimates ranging from 50 – 200 or more acres. The USFWS suggests the use of 250 acres for identifying potential viable populations. While BRL WEA has enough habitat to sustain a viable population of gopher tortoises, BFWEA is below the threshold being recommended by the USFWS. However, when adding the acres included in the in the CFCC and Oakleaf Plantation buffer, it is likely BFWEA can sustain a viable population of gopher tortoises.

Ongoing natural communities management emphasizing the frequent use of prescribed fire to promote a diverse ground cover and open tree canopy will benefit gopher tortoises. Additional land management considerations are found in Section 4.3.3. Based on the life history of this species and the rate at which it responds to management, workshop participants reached consensus that monitoring on a 5-year interval is appropriate (Section 5.2.1).
The goal is to sustain a viable gopher tortoise population on both of these WEA's. To meet this goal, staff will continue to apply prescribed fire in an effort to maintain the habitat in a condition that will support the species. The measurable objective is to:

1. Track changes in the population trend by monitoring every 5 years.

3.2.4: American Swallow-Tailed Kite

The American swallow-tailed kite (*Elanoides forficatus*) is occasionally seen around BRLWEA and BFWEA, but nesting has not been documented on either area. The swallow-tailed kite uses a variety of natural communities, requiring a mosaic of tall trees for nesting habitat and open areas for foraging habitat. Dominant trees taller than the surrounding trees are preferred for nesting sites. Shrub height and density tends to be higher around nest sites than in the surrounding area. Currently few potential nest sites exist on BRLWEA or BFWEA, but nest sites may occur on adjacent properties.

American swallow-tailed kites trigger 4 of 6 statewide prioritization parameters (priorities table). Models indicate 720 acres of potential habitat on BRLWEA and 236 acres on BFWEA, but on both areas, this is primarily foraging habitat. While it is unlikely that any WMA WEA could independently support a population of this wide-ranging, migratory species, this species tends to continue to use nest sites as long as the habitat remains suitable. Therefore, even smaller acreage areas can have a role in the conservation of the species. Given the generalist nature of this species and its high mobility, it is not considered management dependent, though it does benefit from active management to restore natural communities, provided nest sites are not disturbed. Thinning of pine plantations can help improve the forest structure and increase the use of these areas by swallow-tailed kites. Timber management that favors open, mature stands of native pine will benefit this species in the long-term.

Prescribed fire and actions that aid in restoring natural community structure should continue to maintain and enhance habitat for this species. Cooperation with the Avian Research and Conservation Institute (ARCI) for future monitoring efforts is encouraged to further define the regional needs of the species. If nests are located on the area, management recommendations around these sites should be considered (Section 4.3.3) and the nest reported to ARCI (Section 5.3). If swallow-tailed Kite nesting activity is observed, this information should be documented and reported (Section 5.2.4).

The goal is to provide suitable habitat for the American swallow-tailed kite that will allow individuals using the WEA's to continue to function as part of a regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will meet the foraging needs of the species. The continued presence of this species on these areas is dependent on conditions that influence the regional population.

3.2.5: Bachman's Sparrow

Bachman’s sparrows (*Passercia (Amphipha) aestivalis*) are commonly heard on both WEA's, and Bachman's sparrows have been documented on JSP nearby BFWEA. Both areas also have adjacent lands that are managed to provide suitable habitat for Bachman’s sparrow. Nesting has not been documented on either WEA, but is likely occurring on both areas. No specific monitoring to determine the spatial distribution or relative abundance of Bachman’s
Bachman’s sparrows have been completed on either WEA.

The Bachman’s sparrow triggers 2 of 6 prioritization parameters (priorities table) and is currently experiencing range-wide population declines. On BRLWEA, models identified 720 acres of potential habitat. On BFWEA, models identified 214 acres of potential habitat. Literature suggests a viable population can be maintained on around 520 acres, which suggests BRLWEA has enough potential habitat to maintain a viable population of Bachman’s sparrows. BFWEA in conjunction with adjacent conservation lands will contribute to sustaining a regional population, providing appropriate management can be applied.

Bachman’s sparrows prefer mature pine forests with a low basal area and healthy herbaceous vegetation, well-maintained dry prairie, or early-successional old-field habitat. The Bachman’s sparrow is responsive to management and the occurrence of frequent fire is critical to sustaining habitat for this species. Use of an area by Bachman’s sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for 23 years. Current land management focusing on the frequent use of prescribed fire on both WEAs will continue to improve and maintain suitable habitat for Bachman’s sparrow. Additional land management recommendations for Bachman’s sparrow can be found in Section 4.3.5.

Staff does not monitor Bachman’s sparrows on either BRLWEA or BFWEA, largely due to the small size of these areas and limited resources. Staff visiting the area for other duties readily detect Bachman’s sparrows, and should document these observations when they occur during the early spring and summer and overlap nesting season (Section 5.2.4).

The goal for BRLWEA is to provide suitable habitat for the Bachman’s sparrow and support a viable population. The goal for BFWEA is to provide suitable habitat for the Bachman’s sparrow and contribute to sustaining the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species on BFWEA is dependent on conditions that influence the regional population. However, adjacent public conservation lands increase the likelihood that Bachman’s sparrows will persist on BFWEA, provided beneficial management that includes the use of frequent fire can be applied.

3.2.6: Brown-Headed Nuthatch

Brown-headed nuthatches (Sitta pusilla) are commonly heard on both WEAs. Nesting has not been documented, but is likely on both WEAs. No specific monitoring to determine the spatial distribution or relative abundance of brown-headed nuthatches has been completed on either WEA. Brown-headed nuthatches are dependent on open stands of mature pine. Older pine forests (>35 years for longleaf or slash pine) and stands with basal area between 35–50 ft²/acre are preferred, although nuthatches can use pine stands with younger trees and higher basal areas. This cavity-nesting species is dependent on the presence of snags for suitable nesting habitat. Unfortunately, to the detriment of the nuthatch, land management activities frequently knock over these snags. Both WEAs have numerous snags available and staff avoids unnecessary disturbance of these snags. Both areas also have adjacent lands that are managed to provide suitable habitat for brown-headed nuthatches.

This species triggers 2 of 6 prioritization parameters (priorities table) and is currently
experiencing range-wide declines due to habitat loss and degradation. Models identified 720 acres of potential habitat on BRLWEA, and 214 acres on BFWEA. Literature suggests between 320 and 1,000 acres of suitable habitat are necessary to support a viable population of this species. Given this, BRLWEA may have enough potential habitat to maintain a viable population, and BFWEA, in conjunction with adjacent conservation lands, will contribute to sustaining a regional population of brown-headed nuthatches. Potential habitat on private lands adjacent to each area is unevenly distributed, and in varying degrees of suitability to the species.

Management actions that aid in restoring natural community structure, such as frequent prescribed fire, or thinning and other silvicultural activities favoring mature timber, maintain or enhance habitat for this species. Current land management focused on the frequent use of prescribed fire on both WEA will continue to improve and maintain suitable habitat for brown-headed nuthatches. Additional land management recommendations for brown-headed nuthatches can be found in Section 4.3.6.

Staff does not monitor brown-headed nuthatches on either BRLWEA or BFWEA, largely due to the small size of the areas and limited resources. Staff visiting the area for other duties readily detect brown-headed nuthatches, and should document these observations when they occur during the early spring and summer and overlap nesting season (Section 5.2.4).

The goal for BRLWEA is to provide suitable habitat for brown-headed nuthatches and support a viable population. The goal for BFWEA is to provide suitable habitat for brown-headed nuthatches to contribute to the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. For BFWEA, the availability of potential habitat on adjacent public conservation lands increases the likelihood that brown-headed nuthatches will persist.

3.2.7: Northern Bobwhite

Although systematic efforts to document local distribution and relative abundance of northern bobwhite have not been attempted, staff regularly see and hear the species on BRLWEA and BFWEA. Further, the private land adjacent to BRLWEA is managed to enhance the northern bobwhite population. Bobwhites are associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Bobwhites depend on multiple early-succession habitats that are well interspersed to meet their annual requirements. Areas with abundant native warm-season grasses and herbaceous annual vegetation are used for raising broods and foraging. Shrubs or other thickets are useful as roosting habitat or escape cover. Managers can use the frequent application of prescribed fire to create the mosaic of vegetation conditions this species requires to meet its life history needs.

The bobwhite is a game species and is not listed at either the FWC or federal level. This species triggers 2 of the 6 statewide prioritization parameters (priorities table); however, BBS data indicate a 3% decline per year range-wide with a 4.0% decline per year in Florida. As a result, this species has become the focus of a number of ongoing conservation initiatives and the FWC approved the Strategic Plan for Northern Bobwhite Restoration in Florida in 2007. The ongoing range-wide population declines, its popularity as a game bird, the
potential to increase habitat quality, and the many conservation initiatives for this species make it a medium priority species on both WEAs.

Models indicate 720 acres of potential habitat on BRLWEA. Literature suggests that 2,000-4,000 acres are necessary to support a viable population. The potential habitat on BRLWEA is good quality, and this relatively small acreage is supplemented by more than 3,000 acres on Canaan Ranch to the west, which is managed for bobwhite hunting. Therefore, the opportunity for bobwhite conservation on BRLWEA is high.

Models indicate 342 acres of potential habitat on BFWEA. The potential habitat on BFWEA is good quality and there is additional habitat in fair to good condition on CPCC and JSF. However, the proximity of BFWEA to residential development makes free-ranging or feral cats a significant risk to sustaining a population of bobwhites. Sustaining bobwhites on BFWEA will be more challenging, but the species should persist with continued use of prescribed fire.

Current land management focused on the frequent use of prescribed fire on both WEAs will continue to improve and maintain suitable habitat for bobwhites. Additional land management recommendations for bobwhites can be found in Section 4.3.8. Staff does not monitor bobwhites on either BRLWEA or BFWEA, largely due to the small size of the areas and limited resources. Staff visiting the area for other duties readily detects bobwhites. When conducting management activities during the northern bobwhite nesting season (early spring and summer), staff should document these observations (Section 5.2.4).

The goal for both WEAs is to provide suitable habitat for the bobwhite and contribute to sustaining the regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species depends on conditions that influence the regional population. However, the condition and management of adjacent private lands increases the opportunity for conservation of northern bobwhites on BRLWEA. On BFWEA there is adjacent public conservation lands to the west that support the regional population, but the urbanization of land to the east will present a challenge to maintaining northern bobwhites on BFWEA.

3.2.8 Southeastern American Kestrel

The southeastern American kestrel is observed frequently on BRLWEA, which is located within the core breeding range of the species. Staff installed 4 nest boxes on the area in 2011 and monitors these boxes according to protocol developed by FWC’s Fish and Wildlife Research Institute (FWRI). Kestrels nested in 2 of the nest boxes in 2012, but both nests failed to fledge young. One nest may have been depredated and the other appeared to have been abandoned when the eggs failed to hatch. Staff frequently observe kestrels using natural cavities in snags on BRLWEA, which may be preferred over the nest boxes. Additionally, significant quantities of private lands near BRLWEA are managed in a fashion compatible with the needs of this species.

Southeastern American kestrels utilize upland habitats, including sandhills, longleaf savannas, pastures, sand pine scrub, and prairies. As a secondary cavity-nesting species, southeastern American kestrels use previously excavated cavities in large snags. They will utilize artificial cavities when placed in areas of suitable habitat. They require adequate perch sites within foraging areas for hunting, low ground cover (<1 ft), and an open canopy.
(<20% cover). Average breeding territory size is 125 acres, though more area may be necessary if the habitat quality is marginal.

Southeastern American kestrels are listed by the FWC as a threatened species and trigger 4 of 6 prioritization parameters (priorities table). Models did not identify any potential habitat for this species on BFWEA, and therefore the southeastern American kestrel is not a focal species for BFWEA. Models indicate 720 acres of potential habitat for southeastern American kestrels on BRLWEA. The level of opportunity on BRLWEA is high, given the quality of potential habitat and the fact that southeastern American kestrels already use, and nest on, the area.

Management actions that maintain or enhance habitat for this species include prescribed fire and management favoring mature, open stands of longleaf pine. Additional land management considerations including the protection and creation of snags can be found in Section 4.3.9. Monitoring for southeastern American kestrels will continue according to a protocol developed by FWRI as part of a statewide kestrel nest box monitoring program (Section 5.2.2). Staff shares the results of this monitoring with FWRI (Section 6.1.2) and uses the results to assess the need for additional nest boxes (Section 5.1.1).

The goal is to promote suitable foraging and nestling habitat for southeastern American kestrels that will allow individuals using BRLWEA to function as part of a regional population. While the continued presence of this species is dependent on conditions that influence the regional population, Southeastern American kestrels are likely to persist on BRLWEA. The measurable objectives are to:

1. Maintain at least 4 functional nest boxes within suitable habitat on BRLWEA.
2. Evaluate the use of available nest boxes and the suitability of adjacent habitat to determine the need for additional boxes or alternative sites.

3.2.9: Florida Mouse

Florida mice are abundant on BRLWEA, but, despite efforts to locate them, staff has not documented the species on BFWEA. This species occurs in fire-maintained xeric uplands that have well-drained, sandy soils. While acorns are an important food source for this species, having a diverse ground cover that provides a diversity of food throughout the year is equally important. Abundance of Florida mice is highest in areas supporting early successional vegetation, populations decline as natural communities become more densely vegetated, more heavily shaded, and more mesic. The Florida mouse is an obligate commensal of the gopher tortoise, and may not be able to persist long-term on sites where tortoises are absent.

Maintenance of native sandhill ground cover along with fire-tolerant oak species will help ensure that Florida mice will have food resources available throughout the year. Fire-tolerant oak species such as dwarf live oak (Quercus minima), bluejack oak (Q. incana) sand live oak (Q. geminata), turkey oak (Q. laevis), and sand post oak (Q. margarettae) distributed in small clumps, or individually throughout the landscape, provide important food and habitat structure for the Florida mouse and other species.

The Florida mouse triggers 4 of 6 prioritization parameters (priorities table) and is listed by FWC as a species of special concern. Based on a recent biological status review, the Florida mouse does not warrant listing. The species will remain a species of special...
concern until the FWC approves a management plan for the species, and approves the rule change removing the species from the list.

On BRLWEA, Florida mice are abundant. So much so, that beginning in February 2012, Species Conservation Planning (SCP) staff with assistance from WHM staff initiated a study on BRLWEA to examine the effects of prescribed fire on Florida mouse demographics and survival. Staff trapped mice prior to scheduled burns on the area and 4 post-fire trapping events have been conducted. Preliminary data analysis indicates a healthy population. Trap success was very high with 318 mice ear-tagged through October of 2012, including pregnant and lactating females, scrotal (reproductively active) males, and many juveniles. SCP staff plans to continue this effort through several prescribed fire cycles to assess seasonal vs. fire-related trends in survival.

Models indicate 720 acres of potential habitat on BRLWEA. Literature suggests Florida mice require 75–200 acres of suitable habitat to support a viable population. Based on this information, with appropriate management, BRLWEA can support a viable population of Florida mice. This species is management responsive and there is the opportunity for management on BRLWEA to have a significant influence; therefore, it is a high priority species. The current study of Florida mice on BRLWEA is scheduled to continue through 3 prescribed fire cycles ending in 2016. The current study collects more data and monitors with greater intensity, but the layout of transects and the individual trapping stations are the identical to the standard Florida mouse occupancy protocol. Subsequent to the completion of the current study the standard monitoring protocol will be repeated on a 5-year interval (Section 5.2.3).

The goal on BRLWEA is to maintain a viable Florida mouse population. The main action staff will take to affect this goal is to continue to manage the sandhill with frequent prescribed fire, with an emphasis on growing season burns. The measurable objective is to:

- Conduct follow-up surveys on a 5-year interval to monitor persistence of populations.

Despite surveys specifically looking for the Florida mouse, staff has not documented the species on BFWEA. In February 2012, WHM staff conducted a trapping effort within 2 management units of BFWEA that had gopher tortoise burrows, intact ground cover, and had been treated with fire on a 2-year rotation. No Florida mice were captured during 160 trap-nights. The northwest regional SCP biologist has previously attempted to catch Florida mice on BFWEA with no success. Staff should conduct one more presence/absence sampling effort on BFWEA within the next 3-5 years (Section 5.2.3). If no Florida mice are captured, the species should not be considered a focal species on BFWEA. If Florida mice are captured, this assessment should be revisited.

While models did identify 85 acres of potential habitat for the Florida mouse on BFWEA, this is near the lower threshold of what is needed to support a viable population. Additionally, most of the xeric natural communities on BFWEA have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands. Because Florida mice prefer sandy, xeric soils, it is possible BFWEA was never high quality Florida mouse habitat. Further, the closest modeled potential habitat on conservation lands is greater than 2 miles distant on ISF. As such, until Florida mice are documented on site, we will not draft a goal for the area. The measurable objective is:

- Conduct a Florida mouse survey in suitable habitat on BFWEA by 2018.
3.2.10: Sherman’s Fox Squirrel

Sherman’s fox squirrels (*Sciurus niger shermani*) are frequently seen on BRLWEA and occasionally seen on BFWEA. In a recent (Aug 2011-Apr 2012) web-based citizen-science survey effort, numerous reports of fox squirrels came from the area surrounding each of these WEAs.

This FWC-listed species of special concern triggers 4 of 6 prioritization parameters (priorities table). Suitable habitat for Sherman’s fox squirrel includes longleaf pine sandhills or flatwoods with a mixture of pines and oaks, and a sparse to moderate shrub layer. Sherman’s fox squirrels appear to do best in mature longleaf pine stands maintained with fire that results in an open understory with an oak component. Mast-producing hardwoods, especially mature oaks, are important as fox squirrels often use large oaks for nest sites and daytime refugia. In addition, acorns provide a major part of their diet. Mature longleaf pines that produce seed bearing cones are an important energy-rich food source, particularly during summer. A mosaic of habitat conditions across the landscape, including a variety of oaks, ensures a year-round supply of food items that vary seasonally.

Models identified 720 acres of potential habitat on BRLWEA, and 217 acres on BFWEA. The fox squirrel is a wide-ranging species and the literature suggests 2,000-9,000 acres of suitable habitat are required to support a population. Given this, the habitat on these WEAs cannot independently support a local population. The potential habitat on BRLWEA, and the adjacent Canaan Ranch, is generally in good condition. The rest of the private land adjoining the area is in moderate to poor condition for this species. The potential habitat on BFWEA, and on upland portions of CFCC and JSF to the west and south, is generally in fair to good condition. The rest of the land adjoining BFWEA is privately owned and in moderate to poor condition for this species. Therefore, while these WEAs have a role in supporting the regional population, it will be important to maintain additional habitat for fox squirrels on adjacent public and private lands.

Management actions that maintain or enhance habitat for fox squirrels include prescribed fire, mechanical actions that aid in restoring natural community structure, and timber management that results in open, mature pine forests. Additional land management recommendations for fox squirrels are found in Section 4.3.3. Because this species naturally occurs at low densities and can be difficult to detect, no specific monitoring, aside from opportunistic documentation, is recommended (Section 5.2.4).

The goal for these WEAs is to provide suitable habitat for Sherman’s fox squirrels that allows the individuals using these WEAs to function as part of the regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species is dependent on conditions that influence the regional population. However, the Galloway plantation and agricultural lands adjacent to BRLWEA increase the opportunity for conservation of fox squirrels. There are adjacent public conservation lands to the west of BFWEA that support the regional population of fox squirrels, but the urbanization of land to the east will present a challenge to maintaining fox squirrels on BFWEA. Because habitat availability and management on private lands affects the continued regional presence of fox squirrels, FWC staff from CPS (Section 6.1.3) should work with private landowners to identify and maintain suitable conditions.
3.2.11: Limited Opportunity Species

Five focal species (striped newt, Cooper’s hawk, wading birds, Florida black bear and southeastern bat) were modeled (using statewide data) to have potential habitat on these WEAs but lack reasonable opportunity for management. Opportunistic observations of these species should be documented (Section 5.2.4). If any of these species are documented with increasing regularity, the areas’ roles in their conservation should be re-visited. As limited opportunity species, there is no need for SMAs, specific monitoring, goals, or measurable objectives.

**Striped Newt.** Models did not identify any potential habitat for the striped newt on or within ~2.5 miles of BRLWEA. While these models did identify 200 acres of potential habitat for striped newts on BFWEA, the species has not been documented on BFWEA. The closest and most recently documented breeding ponds are on JSF, 4 miles to the southwest. The potential habitat on BFWEA is isolated from these ponds on JSF by a wide swath of mesic and wet flatwoods that are unsuitable for striped newts.

The striped newt triggers 4 of 6 prioritization parameters (priorities table). Potential habitat models indicate 200 acres of habitat for this species, but only 86 acres of sandhill habitat, which can potentially be used by adults. This potential habitat is isolated from other xeric uplands in the area by development and flatwoods. While the continued use of frequent prescribed fire will maintain this potential habitat in suitable condition, there is little opportunity to manage for the species on this small isolated acreage.

**Cooper’s Hawk.** The Cooper’s hawk has not been observed on BRLWEA and nesting has not been documented. This species is not listed at either the FWC or federal level, and the species triggers 1 of the 6 statewide prioritization parameters (priorities table). No potential habitat is modeled to occur on BFWEA. While the statewide PCLP mapped potential habitat on BRLWEA, area-specific natural community based modeling indicated that no potential habitat occurs on the area. This species nests in a variety of habitats including swamps, floodplain forests, and upland hardwood, which are not found on these WEAs. The Cooper’s hawk is not considered management dependent, though it does benefit from active management to restore natural communities, provided nest sites are not disrupted.

Because of the generalist nature of this species, the opportunity for management to have a significant impact on this species at the WEA level is limited. Migrating individuals may forage on the WEAs, but suitable nesting habitat is unlikely to occur on BRLWEA in the future, and Cooper’s hawk should not be a focus of management on either of these WEAs.

**Wading Birds.** No potential habitat was identified for this group on BRLWEA. Of the 8 species in this group, great egret (Casmerodius albus), snowy egret (Egretta thula), reddish egret (E. rufescens), tricolored heron (E. tricolor), little blue heron (E. caerulea), white ibis (Eudocimas albus), roseate spoonbill (Ajaja ajaja), and wood stork (Mycteria americana), none are commonly seen on BFWEA. Some species may occasionally forage in the basin and dome swamps.
Models indicate 169 acres of current potential habitat on BFWEA. Most of this habitat is wet flatwoods with about 42 acres of basin swamp and dome swamp. No nesting colonies have been documented on the area. If wading bird nesting is documented on or within 300 feet of the area, this assessment should be revisited.

While the area can provide limited foraging opportunities for wading birds, there is little opportunity to influence these species through active management. The lack of nesting colonies and the proximity to an active airport further limit the opportunity to manage for these species. With these limitations, wading birds should not be a focus of management on BFWEA.

**Florida black bear**– In June 2012, the FWC removed the Florida black bear from the threatened species list and adopted the FWC Bear Management Plan. The Florida black bear triggers 2 of 6 prioritization parameters (priorities table), but is not known to occur on BRLWEA or BFWEA. BRLWEA falls more than 25 miles outside of the primary and secondary range of any bear population as identified by the FWC Bear Management Plan. Few nuisance and no road kill bears have been documented in the vicinity. BFWEA falls outside of the primary and secondary range of the Oseola subpopulation as identified by the FWC Bear Management Plan. However, the nearest secondary range to BFWEA is only 820 feet away on the CFCC, and numerous nuisance and road-kill bears have been documented in the vicinity. It is possible that bears, particularly young dispersing males, will occasionally cross through BFWEA; however, the limited size and the composition of natural communities on BFWEA will always limit bear use of this property.

This species requires a mosaic of natural communities throughout the year to meet nutritional and reproductive needs. Optimal bear habitat in Florida is described as a thoroughly interspersed mixture of flatwoods, swamps, scrub oak ridge, bayheads, and hammock habitats. The use of frequent prescribed fire to manage these properties for gopher tortoises will result in a more open habitat than is preferred by bears. While models indicate some potential habitat on both WEAs, there is little opportunity to influence the species on such small acreage. As such, the black bear should not be a focus of management.

Additionally, attracting bears to these properties would likely increase undesirable interactions between humans and bears.

**Southeastern bat**– No potential habitat was modeled to occur for the Southeastern bat on BFWEA and the species is not known to occur on BRLWEA. While Southeastern bats may feed and roost in areas of sandhill, their primary foraging habitat is over open water, which does not occur on or near BRLWEA. Suitable maternity caves do not exist on BRLWEA and no documented maternity caves occur within 10 miles of BRLWEA.

This species triggers 2 of 6 prioritization parameters (priorities table). While the statewide PLCP mapped potential habitat on BRLWEA, area-specific natural community-based modeling indicated that no potential habitat occurs on the area. This species is not considered management dependent and the opportunity to affect this species on BRLWEA is low. Because of the lack of preferred habitat and the lack of maternity caves, the southeastern bat should not be a focus of management on BRLWEA or BFWEA.
3.3 Other Listed and Locally Important Species

While natural community management centered on a set of focal species provides benefits to a host of species reliant upon these natural communities, species that are imperiled sometimes require specific attention. Further, subsection 253.03(5) of the Florida Statutes (F.S.) requires all land management plans to include an analysis of the property to determine if significant natural resources, including listed species, occur on the property. If significant natural resources occur, the plan shall contain management strategies to protect the resources. The Florida Forever Act (s. 259.105, F.S.) adds that all State lands that have imperiled species habitat shall include restoration, enhancement, management, and repopulation of such habitats as a consideration in the management plan. In this subsection, we discuss listed or locally important species that are not PLC/F focal species.

It is possible other imperiled species occur on BRLWEA and BFWEA, and if encountered, staff will document these encounters. Florida’s imperiled species are adapted to natural communities and should continue to benefit from FWC’s ongoing or planned ecological management that aims to restore natural community structure and function. Under FWC’s ecological management, these species have a higher probability of persistence than in the absence of this management.

3.3.1: Other Listed and Locally Important Wildlife Species

Eastern Indigo Snake - The federally threatened eastern indigo snake (Drymarchon couperi) has been documented on private lands near BRLWEA. The status on BFWEA is less certain, but the species possibly inhabits the area. As this species has large home ranges, individuals may occur on or occasionally pass through both WEA’s. Planned habitat management that includes the use of prescribed fire will enhance conditions for this species. Stumps and other coarse woody debris should be retained when possible during land management activities as potential refuge sites (Section 4.3.2). All indigo snake sightings on BRLWEA or BFWEA should be documented (Section 5.2.4).

Short-Tailed Snake – While BRLWEA is within the known range of the short-tailed snake (Lampropeltis deatmanii), BFWEA is outside of the known range and does not have soils that meet this species requirements. The short-tailed snake is a FWC-listed threatened species that has been documented in similar soil types in Alachua and Levy counties near BRLWEA. Little is known regarding the life history of this species. Conservation of sandhill habitat will presumably benefit this species. Any incidental sighting of this species should be documented (Section 5.2.4) and collection of a photo-voucher is encouraged.

3.3.2: Rare Plants

The FNAI conducted a plant survey on BRLWEA and documented 109 species, including 1 state endangered plant, sandhill spiny-pod (Matelea pinnata). While no formal rare plant inventory has been conducted on BFWEA, 4 imperiled plant species have been documented: hooded pitcher plant (Sarracenia minor), piedmont joint grass (Coelorachis tuberculosa), giant orchid (Pteroglossaspis [Entophas] ecristita), and Florida toothache grass (Ctenium floridanum). The Florida Department of Agriculture and Consumer Services
lists hooded pitcher plant, piedmont joint grass, and giant orchid as threatened. Florida toothache grass is listed as endangered. The protections afforded plants by existing on conservations lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain habitat for these and other rare plants. As such, these species should persist under current management on BRLWEA and BFWEA.

While planned management is compatible with the needs of most imperiled plants, contracting for a rare plant inventory is suggested. This will require additional resources. The measurable objective is:

1. Seek funding to allow for contracting for the completion of a rare plant inventory on BFWEA.

*Piedmont Joint Grass* - Piedmont joint grass is an obligate wetland indicator species found in wet bogs, edges of depressions, and savannas. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent shrub encroachment in these wetlands and help preserve this species.

*Hooded Pitcher Plant* – Hooded pitcher plant is an obligate wetland indicator species found in wet bogs, edges of depressions, and pine flatwoods. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent succession to sedges and shrubs in these wetlands and help preserve this species.

*Giant Orchid* – Giant orchid is typically found in sandhill, scrub, pine flatwoods, and pine rockland natural communities that are actively managed. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to these orchids, and should be avoided near known occurrences.

*Florida Toothache Grass* – Florida toothache grass is found from sandhill to wet flatwoods sites. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent shrub encroachment and help preserve this species.

*Sandhill Spiny-pod* – Sandhill spiny-pod is typically found in sandhill natural communities that are actively managed. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to this species, and should be avoided near known occurrences.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 11 focal species on BRLWEA and 12 focal species on BFWEA (Section 3.1); however, not all of these species have the same level of management opportunity or need (Section 3.2). The FWC’s natural community-based management, which emphasizes prescribed fire methods that produce a mosaic of burned and unburned areas, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions. We may designate Strategic Management Areas (SMAs) when actions over and above ongoing natural community
management are required in a specific location (Section 4.1). In addition, to ensure natural community management addresses the needs of these focal species, we evaluate the OBVM DFCs for natural communities (Section 4.2). Section 4.3 provides recommendations for species that need specific protective measures or land management considerations to ensure their continued presence on the property.

4.1: Strategic Management Areas

The intent on BRLWEA and BFWEA is to apply management actions that maintain intact natural communities in good condition and restore degraded or altered natural communities to a condition that will better suit focal and listed species. However, SMAs focus management actions on MUs with the highest possibility of success, and or MUs most critical for the conservation of a species on the WEAs. Staff designates SMAs to achieve at least one of the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence and conservation of a species or suite of species. These specific actions should aid in restoring, enhancing, or maintaining the habitat or population.
- Identify an area in which to focus specific land or species management actions for the best chance of success, when there is more restoration and enhancement than can be accomplished in short order on the WEA. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the WEA that it warrants special designation to ensure protection against negative alteration.
- Identify areas that are critical for research or monitoring.
- Recommend MU-specific natural community DFCs that differ from the DFCs in the natural community area-wide, when this is necessary to benefit a specific species.

Workshop participants agreed that planned and ongoing management actions across BRLWEA and BFWEA will meet the needs of the focal species; therefore, they did not designate any SMAs.

4.2: Objective-Based Vegetation Management (OBVM) Considerations

OBVM is an approach to land management that emphasizes restoring and maintaining natural plant communities towards pre-determined desired conditions. The OBVM DFCs (Table 2) target a range in values for various habitat attributes within actively managed communities. However, if a focal species requires a more restricted range in habitat attributes than is reflected in the area-wide DFCs, or depends on a vegetative attribute that is not currently monitored on BRLWEA or BFWEA, we may recommend adjusting the DFC range or adding the attribute. The workshop gave participants the opportunity to evaluate if the current DFCs meet the needs of focal species and if not, to suggest modifications. The following are common reasons to modify DFCs:

- To obtain maximum habitat suitability for a species that requires a more restricted range of DFC values than the current DFC values.
To benefit a particular species in specific MUs, typically when we have designated a SMA that requires a change in natural community DFCs only within the SMA and not in the natural community area-wide.

To add an attribute that was not previously monitored.

Table 2. Desired Future Conditions for mesic flatwoods and sandhill natural communities on BFWEA and BRLWEA, based on FNAL reference site values.

<table>
<thead>
<tr>
<th>Mesic Flatwoods</th>
<th>DFC Value Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Basal Area (sq. ft./acre)</td>
<td>10-50</td>
</tr>
<tr>
<td>L.L. Basal Area (sq. ft./acre)</td>
<td>10-50</td>
</tr>
<tr>
<td>Non-Pine-Density (count in 7m radius)</td>
<td>0</td>
</tr>
<tr>
<td>Subcanopy (count within 4m quadrant)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Serenoa Cover (%)</td>
<td>10-25</td>
</tr>
<tr>
<td>Serenoa Petiole Density &gt;3 ft (count)</td>
<td>0</td>
</tr>
<tr>
<td>Average Maximum Shrub Height (ft)</td>
<td>≤2</td>
</tr>
<tr>
<td>Shrub Cover (%)</td>
<td>≤25</td>
</tr>
<tr>
<td>Shrub Stem Density &gt;3 ft (count)</td>
<td>≤1</td>
</tr>
<tr>
<td>Maximum Shrub DBH (inches) ≤0.5</td>
<td>≤0.5</td>
</tr>
<tr>
<td>Herbaceous Cover (%)</td>
<td>≥25</td>
</tr>
<tr>
<td>Wiry Graminoids Cover (%)</td>
<td>≥10</td>
</tr>
<tr>
<td>Exotics Plant Cover (%)</td>
<td>0</td>
</tr>
<tr>
<td>Weed Cover (%)</td>
<td>≤2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sandhill</th>
<th>DFC Value Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine-only Basal Area (sq. ft./acre)</td>
<td>20-60</td>
</tr>
<tr>
<td>Longleaf Pine Regeneration (count)</td>
<td>NA</td>
</tr>
<tr>
<td>Non-Pine stem Density (in 7m radius)</td>
<td>≤3</td>
</tr>
<tr>
<td>Subcanopy (stems)</td>
<td>≤1</td>
</tr>
<tr>
<td>Shrub Cover (%)</td>
<td>10-20</td>
</tr>
<tr>
<td>Serenoa Cover (%)</td>
<td>≤5</td>
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<tr>
<td>Serenoa Petiole Density</td>
<td>0</td>
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<tr>
<td>Shrub Stem Density &gt;3 ft</td>
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</tr>
<tr>
<td>Average Maximum Shrub DBH (in)</td>
<td>≤1</td>
</tr>
<tr>
<td>Average Maximum Shrub Height (ft)</td>
<td>≤3</td>
</tr>
<tr>
<td>Herbaceous Cover (%)</td>
<td>≥25</td>
</tr>
<tr>
<td>Bare Ground Cover (%)</td>
<td>1-10</td>
</tr>
<tr>
<td>Weedy Cover (%)</td>
<td>≤2</td>
</tr>
<tr>
<td>Exotic Plant Cover (%)</td>
<td>0</td>
</tr>
</tbody>
</table>

1 DBH = diameter at breast height.

The OBVM “data collection protocol” and “attribute range in values” have changed since the BFWEA OBVM workshop, due to program review and budgetary issues. Additionally, the OBVM workshop occurred prior to the identification of reference sites.
Reference sites are areas identified by FNAI as representing the highest quality examples of natural communities in the State. FNAI has identified a reference site for sandhill natural community on BRLWEA. The FWC has not conducted an OBVM workshop for BRLWEA. At the WCPR workshop, participants agreed that use of the reference sites’ values would best meet the needs of the focal species. As such, Table 2 reflects the recommended OBVM DFCs for BFWEA and BRLWEA. The actively managed natural communities on BFWEA include mesic flatwoods, wet flatwoods and sandhill, while sandhill is the only actively managed natural community on BRLWEA.

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that maintains or restores the structure and function of the natural communities they use. However, specific management recommendations and precautions are necessary to ensure continued suitability of the area for some species. The following recommendations should help these WEAs continue to fulfill their role in the conservation of these species.

4.3.1: Frosted Flatwoods Salamander

Frosted flatwoods salamanders frequently move between wetland breeding ponds and adjacent uplands. Avoid placing new firebreaks or roads along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is preferred to allow fire to burn through the wetland. Managers will use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins; mechanical treatments may be needed initially, but prescribed fire should be the primary management tool in suitable wetlands. Because it is important to maintain potential breeding ponds in good condition, minimize soil disturbance within 500 yards of potential breeding ponds.

Growing season (April–September) burns, preferably after April, are more beneficial to frosted flatwoods salamanders than dormant season (October–March) burns. This is because growing season burns are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. The most beneficial time to burn is when the wetland is dry. Although growing season fires are preferred, it is better to burn during the dormant season than to avoid burning.

4.3.2: Eastern Indigo Snake / Florida Pine Snake

Large upland snakes such as the eastern indigo snake and Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for these species, but could be directly detrimental. When using heavy equipment during land management activities, it is important to avoid direct mortality by allowing snakes to move away from the path of the equipment. When practical during land management activities, keep heavy equipment at least 25 feet from areas with a high density
of pocket gophers or gopher tortoise burrows. This precaution will help to avoid direct mortality of pine snakes, which regularly use gopher tortoise burrows for refuge, and forage on pocket gophers. When possible, leave coarse woody debris and residual stumps intact to provide cover for both of these snake species. If necessary to reduce smoke management issues, it is acceptable to pile and burn excess logging slash, but leave some debris in the stand to provide cover for these species and their prey. Creating brush piles can provide cover for these species if natural cover is sparse or absent.

4.3.3: Gopher Tortoise

In areas where gopher tortoises occur, the timing of mechanical treatments should occur, when appropriate, during the dormant season to minimize negative impacts to gopher tortoises. Gopher tortoises are generally less active and remain in burrows during the winter months; therefore, mechanical equipment at this time will be less likely to crush or otherwise harm foraging tortoises. In addition, because it is difficult for equipment operators to see hatching tortoises, and hatchlings are most abundant during September and October, avoid mechanical treatments during these months when practical. However, consider how the timing of the treatment will affect management results, and conduct the treatment in a way that allows for meeting management objectives while minimizing negative impacts on tortoises. Regardless of timing, take steps (e.g., flagging burrows) to minimize impacts on known burrows.

4.3.4: American Swallow-Tailed Kite

Because swallow-tailed kites exhibit high nest site fidelity, if nests are found on the WEAs, protect known nest sites from disturbance and alteration, and retain all of the tallest pines in the area of nest sites. Maintaining a 330-foot protective buffer around active nests during the nesting season (March-June) should minimize the chance of disturbance. When possible, kite nesting areas should be managed to have a higher shrub height and density than surrounding areas. During nesting season, if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, these activities should be documented and an effort to locate the nest should be made. For information on how to locate nests, see:


While kites have not been documented nesting on either WEA, it is important to preserve future potential nest trees. This can be done by retaining the largest, oldest trees on the landscape during land management activities.

4.3.5: Bachman’s Sparrow

Prescribed fire improves habitat quality for Bachman’s sparrows, and is the primary land management tool recommended to promote habitat for Bachman’s sparrow on both
WEAs. Suitable habitat can be created and maintained through frequent (≤3 year rotation) use of prescribed fire. The repeated occurrence of fire is critical to sustaining this species as use of an area by Bachman’s sparrows declines rapidly around 18 months post-fire, and Bachman’s sparrows may abandon habitat if fire is excluded for more than 3 years. When using mechanical treatment to reduce palmetto, apply a ‘sloppy chop’ to retain some potential singing perches, and follow with a prescribed burn.

4.3.6: Brown-Headed Nuthatch

This species is a cavity nester that is dependent on the presence of snags for suitable nesting habitat. As such, make an effort to retain snags during land management activities and evaluate the impact of management activities on snags to ensure new snags will replace consumed snags. Old, short snags with flaking bark and soft wood, especially old, decaying oak snags with a diameter at breast height of <10 inches are important nesting sites for this species. Take care to retain these particular types of snags.

4.3.7: Northern Bobwhite

The primary land management tool used to benefit northern bobwhite is the frequent use of prescribed fire. Ignite fires using a variety of firing techniques and environmental conditions with the goal of promoting a mosaic burn. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Growing season fires are generally preferred, as they are required to trigger flowering and viable seed production in many native species. Recent evidence suggests that the frequency of fire in flatwoods communities may be just as important as the seasonality of burn. Thus, if growing season burns do not occur, it is better to burn the unit during the following dormant season rather than waiting until the following summer.

Pine stands with basal areas >70 ft²/acre should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and/or disking strips during the summer months to promote herbaceous growth.

4.3.8: Southeastern American Kestrel

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites and perches. While ongoing management will encourage the open foraging condition this species requires, make an effort to retain large snags during land management activities. The practice of snag management (i.e., protecting snags when safe and practical, promoting the creation of new snags in areas currently lacking) will benefit southeastern American kestrels. If nesting is documented, minimize the amount of mechanical activity within 500 feet of the nest during the nesting season and protect the snag during prescribed fire activities. For more information on management for kestrels, see:

4.3.3: Sherman’s Fox Squirrel

To help these areas reach their full potential for fox squirrels, prescribed fire should continue to be used to create an open, mature forest structure. Efforts to reduce dense palmetto cover in some MUs will benefit this species by providing the open conditions the species prefers. Reducing palmetto will also enhance conditions for food producing species such as runner oak (*Quercus palmata*) and dwarf live oak (*Q. minima*), preferred by Sherman’s fox squirrel. As fox squirrels require an oak component, mature oaks should be retained in appropriate sites (e.g., fire shadows) during natural community restoration. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent that interferes with other species needs and natural community management. Maintaining single large hardwood trees and small patches of oaks within pine uplands creates the highest quality fox squirrel habitat. Studies conducted in southwest Georgia produced a recommendation of 2-3 large single trees (>12 inch DBH), or patches of smaller trees (4-12 inch DBH), for every acre of pine savanna, to accommodate the needs of Sherman’s fox squirrels.

Section 5: Species Management Opportunities

Land management that considers the needs of a suite of focal species provides direct benefits to many associated species. However, land management actions alone are insufficient to maintain or recover some species. These species need species-specific management (Section 5.1). Additionally, monitoring (Section 5.2) is required to verify management is having the desired influence on wildlife. Section 5.3 identifies research necessary to guide future management.

5.1: Species Management

Species management as used here refers to actions other than land management, monitoring, or research, taken for a specific species. Species-specific management actions can include actions such as translocation, restocking, or installing artificial cavities. These actions may be needed for species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery. Additionally, species that are not present on a site, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction, may require species-specific management. Section 2 and Section 4 provide information on land management actions, such as prescribed fire or mechanical treatments. Section 5.2 covers monitoring related actions, including banding or tagging.
5.1.1: Southeastern American Kestrel

Staff installed 4 southeastern American kestrel nest boxes in March 2010 on BRLWEA. Staff maintains and monitors these boxes following a FWRI developed protocol. The purpose of the southeastern American kestrel nest box program on BRLWEA is to facilitate FWRI research efforts and encourage kestrel nesting opportunities. The FWRI project is part of a statewide effort to erect and monitor southeastern American kestrel nest boxes and collect data on habitat structure near successful boxes to gain a greater understanding of preferred nesting habitat. As monitoring identifies the need, staff will erect, maintain, and monitor new nest boxes.

5.2: Species Monitoring

Monitoring is critical to evaluating the effect of management on wildlife. While we are unable to monitor all of the focal species on BRLWEA and BFWEA, the recommended monitoring assesses species in all actively managed communities, and includes opportunistic monitoring for uncommon or hard to monitor species. Data collected will be reported to the regional conservation biologist for inclusion in the appropriate database developed for the WCPR program. The FWC will make monitoring data available to cooperating agencies and organizations, such as FNAI (Section 6.4).

This section lists the monitoring recommended for BRLWEA and BFWEA. We also provide the purpose for each monitoring effort. The FWC is in the process of standardizing monitoring protocols for a number of these species, and developing a central database for data storage. Area staff will work with the regional conservation biologist to implement standardized protocols, standardize ongoing monitoring that does not have a standardized protocol, and ensure data is included in the central database.

5.2.1: Gopher Tortoise Monitoring

The purpose of gopher tortoise monitoring on these WEAs will be to track the species’ distribution and abundance to determine the effect of management on the population trend. Past surveys followed the established gopher tortoise mitigation park protocol and were intended to be conducted on a 5-year interval. However, the FWC is part of a Gopher Tortoise Candidate Conservation Agreement and the members of this Agreement are working to create a standardized monitoring protocol for the gopher tortoise throughout its range. Once this protocol is agreed upon, we anticipate all gopher tortoise monitoring conducted by FWC will follow this protocol. This protocol will allow for estimating the gopher tortoise density, which will give managers the ability to track changes in the population, rather than just changes in the number of burrows. Data will be reported to the gopher tortoise plan coordinator (Section 6.1.1).

5.2.2: Southeastern American Kestrel Monitoring

The purpose of monitoring kestrel nest boxes is to determine the extent of nesting by southeastern American kestrels on BRLWEA, and to track nesting in boxes over time. Staff
will conduct southeastern American kestrel monitoring according to protocol developed by FWRI. Data will be reported to the conservation biologist for submission to FWRI as part of the statewide study.

5.2.3: Florida Mouse Monitoring

The Florida mouse can be used as an indicator of how gopher tortoise management is influencing commensal species. On BRLWEA, the purpose of monitoring Florida mice is to determine the persistence and distribution of Florida mice on the area, to ensure management is compatible with the needs of this species. We will use the standardized Florida mouse monitoring, with follow-up monitoring occurring on a 5-year interval, to track Florida mouse persistence and distribution.

On BFWEA, the Florida mouse has not been detected despite 2 separate monitoring events. One additional attempt will be made to detect the presence of Florida mice on BFWEA. Prior to 2018, staff will conduct Florida mouse monitoring according to the current protocol with the intent of verifying presence. If not detected in this monitoring event, we will presume the species does not occur on BFWEA.

5.2.4: Opportunistic Monitoring

The purpose of opportunistic monitoring is to document the presence of specific species. Opportunistic monitoring is the process of recording important information on species when encountered. By following the standardized monitoring protocol for wildlife and plants, staff ensures their data are compatible with other opportunistic observations. Documentation of opportunistic sightings including species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be forwarded to the regional conservation biologist. Monitoring data will be made available to cooperating agencies, and organizations such as FNAI (Section 6.4). Use the Opportunistic Observation protocol (links above) to record encounters with, or sign of, the following focal species:

- Frosted flatwoods salamander
- Striped newt
- Eastern indigo snake
- Florida pine snake
- Short-tailed snake
- American swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring, and any nesting activity)
- Bachman’s sparrow (during spring/early summer when nesting is likely)
- Brown-headed nuthatch (during spring/early summer when nesting is likely)
- Cooper’s hawk
- Northern bobwhite (during spring/early summer when nesting is likely)
- Southeastern American kestrel (use of natural cavities on BRL, any observation during nest season on BF)
- Wading birds (nesting activity only)
- Florida black bear
- Sherman’s fox squirrel (adults with young, juveniles, or nests)
- Southeastern myotis
- Any listed species that does not have a monitoring protocol in this section.

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information available. Cases may arise where little or no information is available to guide management, and research is needed. Further, many of these focal species do not have standard monitoring protocol. Research is needed to determine the most efficient means of monitoring these species. For many of the focal species, managers need research about aspects of natural history, such as minimum habitat patch size, preferred habitat parameters, and response to habitat management activities. However, workshop participants did not identify any area-specific species research needs on BRLWEA or BFWEA.

Section 6: Intra/Inter Agency Coordination

The WCRR process identified many recommendations regarding possible management actions for focal species. WHM staff can manage most proposed management actions; however, coordination with other sections in FWC or with other agencies sometimes is necessary or more efficient. This section describes coordination that is necessary outside of the WHM section, identifies the entity to coordinate with, and provides position contacts for these entities. We attempt to provide the name, position, and contact information for the people holding the position when the Strategy was drafted. As positions experience turnover, when in doubt, contact the current Section Leader or supervisor to determine the appropriate person now holding the position.

6.1: Florida Fish & Wildlife Conservation Commission (FWC)

6.1.1: Species Conservation Planning Section (SCP)

Monitoring animal populations on a WMA/WEA gives managers a way to gauge population response to management. If this information is not shared with others, valuable data useful in assessing statewide conservation efforts often is lost or unused. Therefore, WHM will share monitoring data with the appropriate taxa coordinators, and with program coordinators for species that have formal conservation initiatives or management programs. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, the Endangered Species Act Section 6 Cooperative Agreement between the FWC and the USFWS provides the authorization for FWC staff to handle federally listed wildlife. However, staff must be in compliance with the terms and conditions of the Agreement, which includes proper reporting of actions with federally listed wildlife. Staff will coordinate with FWC’s Endangered Species Coordinator to meet the reporting requirements. Please note some contacts will also be covered under Section 6.1.2: FWRI, and Section 6.1.4: Florida’s Wildlife Legacy Initiative.
Contacts:
Elsa Hauhold, Species Conservation Planning Section Leader: (850) 488-3831
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225
Melissa Tucker, Mammalian Taxa Coordinator: (386) 754-1668
Bill Turner, Herpetofauna Taxa Coordinator: (850) 921-1143
Brad Gruver, Endangered Species Coordinator: (850) 488-3831
Terry Dooman, North Central Regional SCP Biologist: (386) 754-1662
Deborah Burr, Gopher Tortoise Management Plan Coordinator: (850) 921-1019

6.1.2: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. Staff will communicate with Karl Miller on an assessment of the current location of kestrel nest boxes and whether sites that are more suitable can be identified. Jim Rodgers administers the FWC’s migratory bird scientific collection permit. Report handling of migratory birds covered by the permit to Mr. Rodgers in January of each year.

Contacts:
Tim O’Meara, Section Leader: (850) 488-3831
Janell Bush, Avian Research Biologist: (352) 955-2081
Karl Miller, Biological Administrator (avian): (352) 334-4215
Kevin Enge, Associate Research Scientist (herps): (386) 758-0525
Jim Rodgers, Research Administrator: (352) 334-4218

6.1.3: Office of Conservation Planning Services (CPS)

Private lands biologists within FWC’s Office of CPS work to provide technical and financial assistance to landowners interested in managing their properties in a manner compatible with the needs of wildlife. These biologists are able to write management plans for landowners and enroll them in cost-share programs that offset some of the financial costs associated with land management. If private landowners near DRLWEA or DFWEA express an interest in managing their lands for wildlife, CPS biologists should be contacted and provided the landowner’s information.

Contacts:
Scott Sanders, Office Director: (850) 488-3831
Kris Cashey, Regional Coordinator: (386) 754-6244

6.1.4: Florida’s Wildlife Legacy Initiative (FWLI)

FWLI can assist in identifying potential partners for collaboration of monitoring and management efforts. FWLI also might be a source of funding via the State Wildlife Grants program; therefore, regular communication with this section will be important.
6.2: Florida Forest Service (FFS)

The FFS provides authorizations for prescribed burning, and will provide assistance with escaped fires. FFS can provide assistance with timber management including administration of contracts for thinning or reforestation operations. WEA staff should continue to coordinate prescribed fire and timber management activities with FFS.

Contacts:
Pat Deren, Duval Forest Area Supervisor; (904) 266-5022
Dewitt Watson, Gilchrist Forest Area Supervisor; (352) 493-6802

6.3: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps information on American swallow-tailed kite populations. Location information on the swallow-tailed kite, particularly nests or nesting behavior, should be shared with ARCI.

Contacts:
Dr. Ken Meyer, Avian Researcher; (352) 335-4151; meyer@arcinst.org
Gina Kent, Research Ecologist and Coordinator; (352) 514-5607; gkent@arcinst.org

6.4: Florida Natural Areas Inventory (FNAI)

FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is often used for planning purposes. As such, WHM will share information about rare and listed species occurrences on BRLWEA and BFWEA with FNAI to ensure this information is included in their database. Additionally, FWC has a contract that allows FNAI to provide plant and animal surveys if the need exists and resources are available.

Contacts:
Dan Hipes, Chief Scientist; (850) 224-8207

Section 7: Beyond the Boundaries Considerations

There is enough potential habitat on BRLWEA and BFWEA, under an appropriate management regime, to support some of the focal species known to occur on or near the WEA. With the continuation of funding for management, BRLWEA can support viable
populations of several species, including Bachman’s sparrows, brown-headed nuthatches, gopher tortoises, and Florida mice. Wide-ranging species such as Florida pine snakes, American swallow-tailed kites, and southeastern American kestrels will continue to exist on these WEA as long as regional conditions are conducive to their persistence.

The current management boundaries for these WEA do not include all important habitat for focal species. The FWC originally identified Strategic Habitat Conservation Areas (SHCAs) in the Closing the Gaps in Florida’s Wildlife Habitat Conservation System report (Cox et al. 1994). The goal of SHCAs is to identify the minimum amount of land needed in Florida to ensure long-term survival of key components to Florida’s biological diversity. The SHCAs identify important remaining habitat conservation needs. New SHCAs have been identified in recent FWC efforts to update the Closing the Gaps entitled “Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas”. This report identified SHCAs within 3 miles of BRL WEA for Cooper’s hawk and the Florida mouse, and within 3 miles of BF WEA for striped newt. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and actions that encourage land use and management that is compatible with the needs of the WEA’s focal species should be a priority in the area.

While the current conditions and management of BRL WEA and BF WEA and neighboring lands provide an opportunity to further the conservation of many focal and imperiled species, significant changes in management or land use beyond the boundaries may have a significant impact on some species. As many of these areas’ species are dependent upon fire-maintained habitat, any change beyond the boundaries that impedes staff’s ability to conduct prescribed fire would be detrimental to the persistence of species such as the northern bobwhite, Bachman’s sparrow, brown-headed nuthatch, and gopher tortoise.

Much of the land surrounding BRL WEA is used for agriculture and intensive silviculture, but many of these landowners are involved in private lands conservation programs. Staff within FWC’s Office of Conservation Planning Service (Section 6.1.3) should encourage landowners neighboring BRL WEA to continue managing their silvicultural or agricultural operations in a manner that is compatible with the needs of wildlife. Although BRL WEA is not in an area with a high expectation of commercial or residential development in the near future, there is currently a high rate of conversion from silviculture to intensive irrigated agriculture in the surrounding area. If habitat continues to be altered, this may negatively influence some species.

While BF WEA does share part of its boundary with CFCC, most of the adjacent private land is being developed as residential and commercial real estate. Lands adjacent to BF WEA that are cleared for development due to an expanding Jacksonville population or developing Cecil Commerce Center will negatively affect species that require large home ranges, or that are dependent on dispersal for maintaining viable populations. This development will also present challenges for maintaining the desired prescribed fire regime and is likely to increase the potential for invasive pest plants on the area.
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12.9 FWC Apiary Policy
Enclosed is the HSC/THCR Apiary Policy for all Florida Fish and Wildlife Conservation Commission’s Wildlife Management Areas and Wildlife and Environmental Areas.
DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY
Issued September 2010

SUBJECT: APIARY SITES ON FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION WILDLIFE MANAGEMENT AREAS AND WILDLIFE AND ENVIRONMENTAL AREAS

STATEMENT OF PURPOSE: It is the intent of this policy to determine which Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Areas or Wildlife and Environmental Areas (WMA/WEA) may have apiary sites, and provides direction on site location, management and administration of said apiaries.

Definitions

Apiary – A place where bees and beehives are kept, especially a place where bees are raised for their honey.

Apiary Site – An area set aside on a WMA/WEA for the purpose of allowing a beekeeper to locate beehives in exchange for a fee as established by contract between the beekeeper and FWC.

Apiary Wait List – An apiary wait list will be maintained by the Terrestrial Habitat Conservation and Restoration (THCR) Section Leader’s Office based on applications received from interested beekeepers. Only qualified apiarists will be added to the list. To become qualified the new apiarist must submit an application form and meet the criteria below under the section titled “Apiary Wait List and Apiary Application.”

Beekeeper/Apiarist – A person who keeps honey bees for the purposes of securing commodities such as honey, beeswax, pollen; pollinating fruits and vegetables; raising queens and bees for sale to other farmers and/or for purposes satisfying natural scientific curiosity.

Best Management Practices – The Florida Department of Agriculture & Consumer Services (FDACS; Division of Plant Industry (DPI), Apiary Inspection Section, P.O. Box 147100, Gainesville, FL 332614-1416) provides Best Management Practices (BMP) for maintaining European Honey Bee colonies and FWC expects apiarists to follow the BMP.

Hive/Colony – Means any Langstroth-type structure with movable frames intended for the housing of a bee colony. A hive typically consists of a high body hive box with cover, honey frames, brood chambers and a bottom board and may have smaller super hive boxes stacked on top for the excess honey storage. A hive/colony includes one queen, bees, combs, honey, pollen and brood and may have additional supers stacked on top of a high body hive box.
Establishment of Apiary Sites on WMA/WEA

During the development of an individual WMA/WEA Management Plan, apiaries will be considered under the multiple-use concept as a possible use to be allowed on the area. “Approved” uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities documents. Items to consider when making this determination can also include:

- Were apiaries present on the area prior to acquisition?
- Are there suitable available sites on the WMA/WEA?
- Will the apiary assist in pollination of an onsite FWC or offsite (adjacent landowner) citrus grove or other agricultural operation?

For those WMA/WEAs that have not considered apiaries in their Management Plan, upon approval of this policy Regional Staff will work with the Conservation Acquisition and Planning (CAP) staff and THCR Section leadership to determine if apiaries are an approved use on the area. If apiaries are considered an approved use then a request will be made to the Division of State Lands to allow this use as part of an amended Management Plan. This request will be made through the THCR’s Section Leader’s office and coordinated by the CAP.

Determination of apiary site locations on WMA/WEAs should be done using the following guidelines:

- Apiary sites should be situated so as to be at least one-half mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site. Exceptions to this requirement must be reviewed by the Area Biologist and presented to the THCR Section Leader for approval.

- Site should be relatively level, fairly dry, and not be prone to flooding when bees would normally be present.

- Site should be accessible by roads which allow reasonable transfer of hives to the site by vehicle.

- If a site is to be located near human activity, such as, an agricultural field, food plot, wildlife opening, campsites, etc., or if the site may be manipulated by machinery at a time when bees would be present, then the apiary site should be located at a minimum of 150 to 200 yards from the edge of that activity. This will ensure minimal disturbance to the bees and minimize incidents with anyone working in the area.
• It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.

• FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

**WMA/WEA Staff Responsibilities**

Area Biologist on WMAs/WEAs with approved apiary sites will forward a GIS shapefile depicting all the apiary site polygon(s), including a name or number with coordinates for each apiary site, to the THCR Contract Manager.

Area Biologist will monitor each apiary site no less than once a year to determine if the beekeeper is abiding by the contract requirements. If violations are noted, staff should bring them to the attention of the beekeeper for correction. If violations continue staff should notify the THCR Contract Manager who will determine if or what additional action is warranted.

Area Biologist will establish and maintain firelines around the apiary site to ensure the apiary site is ready when a planned burn is scheduled.

Area Biologist will advise the beekeeper of burn plans, road work, gate closures, or other site conditions and management activities that may affect the beekeeper’s ability to manage or access the apiary site.

Area Biologist is not responsible to ensure access roads are in condition suitable for beekeepers to access their hives with anything other than a four wheeled drive vehicle. (The site of the apiary may be high and dry, but the roads accessing them may be difficult to impossible to get a two wheeled drive vehicle into during extreme weather, e.g., heavy rainfall events.)

**Apiary Wait List and Apiary Application**

An electronic waiting list for apiary sites will be maintained by the THCR’s Contract Manager for each WMA/WEA. To be placed on the waiting list an interested beekeeper must submit an apiary application form to the contract manager (See Enclosed Application Form). Each applicant will be considered based on the following criteria:

• Proof of a valid registration with the FDACS/DPI.
• Proof of payment of outstanding special inspection fees for existing sites.
• A validated history of being an apiary manager.
• Three references that can attest to the applicant’s beekeeping experience.
If an apiary site is becomes available on a WMA/WEA and there are beekeepers on the waiting list interested in that particular area, those individuals meeting the criteria above will be given preference. If there is more than one beekeeper meeting the criteria with their name on the list then a random drawing will be held by the THCR Contract Manager to determine who will receive the site. Beekeepers on the waiting list will be notified in writing of the random drawing’s date/location and will be invited to attend. The individual’s name selected during this drawing will be awarded the contract.

Apiary agreements are non-transferable. Each agreement serves as a contract between a specific individual or company and FWC, and the rights and responsibilities covered by an individual agreement cannot be transferred.

Contracts

Apiary contracts are for five (5) years and renewals are contingent upon a satisfactory performance evaluation by Area Biologist and concurrence of the THCR Section Leader. Approval is based on apiarist performance, adherence to rules and regulations and general cooperation. If an Area Biologist decides an apiarist whose contract is expiring is unacceptable he may recommend not approving the new contract. If this transpires then the wait list process using random selection will be used. If there is no apiarist on a current wait list then the apiarists who are in good standing with existing contracts will be notified to see if any want to be put on the wait list for the drawing. If none are interested then the site will be put on hold pending a valid request.

Pricing of Apiary Site(s)

Cost of each apiary site will be $40 annually which will include up to 50 beehives. Additional beehives will be charged at the rate of $40 per 50 beehives.

Pricing examples:

- A beekeeper is leasing 2 apiary sites with up to 100 beehives - the fee per year is $80.
- A beekeeper is leasing 3 apiary sites with up to 200 beehives - the fee per year is $160.

Note: The maximum number of hives/colonies allowed on an apiary site will be at the discretion of the apiarist. However, the apiarist is strongly recommended to follow the BMP as recommended by the FDACS/DPI. In addition to providing the BMP, FDACS/DPI’s management has recommended 50 hives per site in pineland communities and no more than 100 hives per site in areas with bountiful resources. However, FWC will not dictate the number of hives on a site unless they create land management issues.

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the
Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

Apiary Inspection Law - Chapter 586, Florida Statutes (see http://www.leg.state.fl.us/Statutes/), Rule Chapter 5B-54, Florida Administrative Code (see www.flrules.org).

The Board of Trustees of the Internal Improvement Trust Fund – Recommended Apiary Agreement Guidelines For Apiaries & Revisions to an Agreement for Apiary Activities on State Lands on September 23, 1986


Attachments

Sample Apiary Agreement W/Attachments (Map Placeholder & Electric Fence Bulletin)

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

___________________________________________________
Division Director or Designee

DATE: ________________________________
APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

THIS AGREEMENT is made by and between the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600, hereinafter known as “the COMMISSION,” and (Insert Name and Address of Apiarist Here), telephone number (Insert Phone Number of Apiarist Here), hereinafter known as “the USER.”

WITNESSETH

In consideration of the mutual promises to be kept by each and the payments to be made by the USER, the parties agree as follows:

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.

2. The COMMISSION Agrees:
   a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.
   b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.
   c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).

3. The USER Agrees:
   a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission, Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.
b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.

c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.

d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.

e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER’S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30 day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.

f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.

g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.

h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.

i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.

j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than $300,000 for bodily injury and $100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER’s current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.
k. To be liable for all damage to persons or property resulting from operations under this Agreement, and to release, acquit, indemnify, save and hold harmless the COMMISSION, its officers, agents, employees and representatives from any and all claims, losses, damages, injuries and liabilities whatsoever, whether for personal injury or otherwise, resulting from, arising out of or in any way connected with activities under this Agreement or activities occurring from any other source not under this Agreement and the USER further agrees to assume all risks of loss and liabilities incidental to any natural or artificial condition occurring on state lands cover by this Agreement.

l. To construct and maintain electric fences, if required by the Area Biologist at the Area Biologist’s discretion, to provide protection of apiaries from black bear depredation consistent with the technical information bulletin attached to this agreement, and, if so required, to maintain an open buffer around the fencing of five (5) feet or more. (See Attachment 1)

m. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER’S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.

4. The parties mutually agree:

a. This Agreement is not transferable.

b. The USER’s failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.

c. The USER’s failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.

d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.

e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation
between sites. Exceptions to this rule must be reviewed by Area Biologist presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.

f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.

g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.

h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.

i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities are found to be incompatible with the COMMISSION’S management plans or for any other reason at the sole discretion of the COMMISSION.
IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last
below written.

__________________________________   FLORIDA FISH AND WILDLIFE
USER SIGNATURE      CONSERVATION COMMISSION

Date: _____________________________   ____________________________

Mike Brooks, Section Leader
Terrestrial Habitat Conservation and
Restoration

Date: _____________________________

Witness

Date: _____________________________

Witness

Approved as to form and legality

______________________________
Commission Attorney

Date: _____________________________
Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger’s job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).
Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to
feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.

The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

**Recommended Electric Fence to Deter Black Bears**

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or “hot” wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately $200 for a 40' x 40' area (160 linear feet of fence).

**Materials:**
- 1 - 1,312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
- 1 - 50 foot roll 12 gauge insulated wire
- 20 - 5 foot 5/8 inch dia fiberglass fence posts
- 5 - plastic gate handles
- 1 - 110 volt fence charger
- 1 - 10 foot ground pipe
- 4 - plastic electric fence signs

**Installation.** These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle
should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

**Tips to improve the effectiveness of your electric fence to deter black bears:**

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.
LITERATURE CITED
AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA
APIARY SITE APPLICATION FORM

Florida Fish and Wildlife Conservation Commission

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Name ______________________________ Telephone Number __________________

Mailing Address ____________________________

City or Town ____________________________ County __________ Zip Code __________

Physical Address (If Different from Mailing Address)
__________________________

Company Name:
____________________________________

Email Address _____________________________

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA ___________________________ County ___________ # of Sites ______

WMA/WEA ___________________________ County ___________ # of Sites ______

WMA/WEA ___________________________ County ___________ # of Sites ______

Planned Number of Hives Per Site: _______ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes____ No____

Number of Years a Member____

Name of Beekeepers Association: ________________________________

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI):_____ Yes _______No _______ N/A If yes, please provide proof.

Are you current with any and all special inspection fees:_____ Yes _______No _______ N/A. If yes, please provide proof.
Do you follow all recommended Best Management Practices from FDACS/DPI?: ______ Yes ______ No

If no, then please explain on a separate piece of paper.

Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:
References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference’s name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission’s

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC’s management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal’s characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC’s WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.
FDACS/DPI’s BMP
Florida Department of Agriculture & Consumer Services
BEST MANAGEMENT PRACTICES FOR
MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.

2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.

3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida’s Best Management Practices.

4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.

5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.

6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.

7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.

8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.

9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.

10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.

11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.
RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an “Apiary Wait List Folder” on the THCR SharePoint for each WMA/WEA with apiary sites.

2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.

3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an “Apiary Wait List”.

4. If a list exists then the qualified applicant will be added to the list.

5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.

6. The letter will request a response within 10 working days to make them eligible for the random drawing.

7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.

8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.

9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds
then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

   a. The names of each interested apiarist will be noted on a 1” X 2” piece of paper and folded in half.

   b. The pieces of paper will be inserted into a “black film canister” which has a snap top and placed into a container and stirred up prior to the selection.

   c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person’s eyesight) and randomly select one of the canisters.

   d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.

   e. The apiarist whose name is selected will be awarded the available site.

   f. A new Agreement will be developed by the THCR Contract Manager.

* A new apiary application must be submitted once requestor’s name is removed from a waiting list.
12.9.1 Apiary Assessment for BRLWEA
The guidelines set forth in the FWC Apiary Policy were used along with ArcGIS, to assess the feasibility of permitting apiary sites within the Bell Ridge Longleaf WEA (BRLWEA). Based on the following criteria outlined in the apiary policy, no suitable apiary sites have been identified on BRLWEA.

Bell Ridge Longleaf WEA

1.) Apiary sites should be situated at least ½ mile from WMA property boundary lines, and at least one mile from any other known apiary site.

   a. There are no parts of the BRLWEA that are more than ½ mile from the property boundary. As such no suitable sites were identified and no further analysis was conducted.

Bell Ridge Longleaf WEA
Gilchrist County, Florida - 720 acres
Apiary Assessment Map
12.10 Management Procedures Guidelines - Management of Archaeological and Historical Resources
Management Procedures for Archaeological and Historical Sites and Properties
on State-Owned or Controlled Properties
(revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, ‘Historic property’ or ‘historic resource’ means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state.”

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered. State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at: http://www.flheritage.com/preservation/compliance/guidelines.cfm
D. Management Implementation

**Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.**

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division’s architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: [http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf](http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf).

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward  
Division of Historical Resources  
Bureau of Historic Preservation  
Compliance and Review Section  
R. A. Gray Building  
500 South Bronough Street  
Tallahassee, FL 32399-0250

Phone: (850) 245-6333  
Toll Free: (800) 847-7278  
Fax: (850) 245-6435
12.10.1 Division of Historical Resources Guidelines for Ground Disturbing Activities
Why do we need the Matrix?

- Regular ground disturbing activities by land managers can damage archaeological resources.
- Projects vary, impacts vary.
- Balance money, cultural resource protection, time, and necessary projects.
Recent Changes to the Matrix

- Simplification
- Eliminated shovel testing by land managers
- Increased consultation for known sites
- Decreased consultation for middle range projects
# The Matrix

<table>
<thead>
<tr>
<th>Extent of Disturbance</th>
<th>Surveyed Area, No Site</th>
<th>Un-surveyed Area</th>
<th>Known Sites</th>
<th>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monitor</td>
<td>Consult DHR</td>
<td>Consult DHR</td>
<td>Proceed with Project</td>
<td>Monitor</td>
</tr>
</tbody>
</table>

*Note: The table shows decision-making steps based on the extent of disturbance and survey results.*
Step 1: Determine if a disturbance is:

- Minor:
  - little ground disturbed
  - no new ground disturbed

- Major:
  - much ground disturbed
  - new ground disturbed
Minor Disturbances

- Bicycle racks
- Cable burial with blade-type devices
- Campsite markers
- Emergency holes (for safety, accident or emergency repairs)
- Fireplaces/grills
- Flagpoles
- Garbage can or recycle bin posts
- Gardening (existing activity)
- Horse hitching posts
- Kiosks on post
- Lifeguard stands
- Lightning arresters
- Plantings (shrubbery, seedlings or plugs)
- Poles for utilities, lights, speakers
- **Prescribed burns (not initial)**
- Road/trail barriers & signs
- **Roller chopping (light-empty tank)**
- Sign posts
- Fire ring installation

* = IF the matrix calls for monitoring, do a walkover of the area after the undertaking. (Large or long, linear projects)
Minor Disturbances

- Boardwalks, catwalks or piers
- Equipment racks
- **Fire lane maintenance***
- Playground equipment installation
- Temporary open shelter construction
- Septic tank/drainage (replacement, no enlargement)
- Stabilizing existing unpaved roads (not historic roads)*
- Unpaved road maintenance (disking, harrowing, plowing, etc.)

- Decks or Platforms
- Drainage swale maintenance*
- Fence posts and railings
- Parking lot boundary posts
- Monument construction
- Tower construction
- Well drilling (includes catchment basins)
Major Disturbances

- Prescribed burns (initial)
- Mechanized exotic plant removal (not hand pulling)
- Concrete slab installation
- Docks
- Dredging
- Public utilities (trenched)
- New fire line construction
- Beach construction
- Initial roller chopping
- Sewage treatment plant construction
- Water/sewer line installation
- Tree trunk removal (big trees)
- Tree or big plant planting or root ball removal
- Drainage swale construction
- Foundation repair or stabilization
- Mobile home installation
- Telephone lines (trenched)
- Terracing for erosion control
- Water retention area construction
- Septic tank/drain field installation (new or enlargement)
- Bridge Construction
- Garden installation (new areas)
- Animal burials
- Trenching
- Clivis (restroom) installation
- Sidewalk installation
- Picnic shelter with slab
- Borrow pits
Step 2:

Check for the presence of known archaeological sites and whether or not an archaeological survey has been conducted in your project area. Use the following sources:

- Managed area’s management plan
- Florida Master Site File
- Personal and local knowledge of site locations
Step 3:

Based on information obtained in steps 1 and 2, determine the category in which the project falls on the Compliance Review Matrix Table (below).

<table>
<thead>
<tr>
<th>Extent of Disturbance</th>
<th>Known Sites</th>
<th>Un-surveyed Area</th>
<th>Surveyed Area, No Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>Consult DHR</td>
<td>Consult DHR</td>
<td>Monitor</td>
</tr>
<tr>
<td>Minor</td>
<td>Consult DHR</td>
<td>Monitor</td>
<td>Proceed with Project</td>
</tr>
</tbody>
</table>
Step 4:

Compliance Review Matrix category guidelines.

"Consult DHR" (Page 70)

"Monitor" (Page 71)
12.11 Operation Plan Fiscal Year 2013 – 2014
## Bell Ridge Longleaf WEA

Fiscal year 2013 Projects: 1213

<table>
<thead>
<tr>
<th>Activity</th>
<th>Title</th>
<th>Man Days</th>
<th>Salary</th>
<th>Fuel Cost</th>
<th>Other</th>
<th>Total</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Administration</td>
<td>0</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0</td>
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<tr>
<td>101</td>
<td>Project inspection</td>
<td>5</td>
<td>$1,002.20</td>
<td>$66.20</td>
<td>$0.00</td>
<td>$1,068.40</td>
<td>0</td>
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<tr>
<td>182</td>
<td>Data management</td>
<td>2</td>
<td>$400.88</td>
<td>$26.48</td>
<td>$0.00</td>
<td>$427.36</td>
<td>0</td>
</tr>
<tr>
<td>185</td>
<td>GIS</td>
<td>2</td>
<td>$400.88</td>
<td>$26.48</td>
<td>$0.00</td>
<td>$427.36</td>
<td>0</td>
</tr>
<tr>
<td>200</td>
<td>Resource Management</td>
<td>1</td>
<td>$200.44</td>
<td>$13.24</td>
<td>$13,740.00</td>
<td>$13,953.68</td>
<td>0</td>
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<tr>
<td>202</td>
<td>Timber management</td>
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<td>$0.00</td>
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<td>$0.00</td>
<td>$0.00</td>
<td>0</td>
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<tr>
<td>206</td>
<td>Prescribed burning - growing season</td>
<td>21</td>
<td>$4,209.24</td>
<td>$278.04</td>
<td>$1,500.00</td>
<td>$5,987.28</td>
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<tr>
<td>208</td>
<td>Firebreaks</td>
<td>10</td>
<td>$2,004.40</td>
<td>$132.40</td>
<td>$500.00</td>
<td>$2,636.80</td>
<td>8</td>
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<tr>
<td>211</td>
<td>Exotic plant control (mechanical)</td>
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<td>$0.00</td>
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<td>$0.00</td>
<td>0</td>
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<tr>
<td>215</td>
<td>Hydrology Management</td>
<td>4</td>
<td>$801.76</td>
<td>$52.96</td>
<td>$30,000.00</td>
<td>$30,854.72</td>
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</tr>
<tr>
<td>289</td>
<td>Native vegetation management (mechanical)</td>
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<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0</td>
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<tr>
<td>290</td>
<td>Native vegetation management (chemical)</td>
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<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td>311</td>
<td>Boundary signs</td>
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<td>$250.00</td>
<td>$891.04</td>
<td>5</td>
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<tr>
<td>312</td>
<td>Informational signs</td>
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<td>$801.76</td>
<td>$52.96</td>
<td>$250.00</td>
<td>$1,104.72</td>
<td>2</td>
</tr>
<tr>
<td>913</td>
<td>New construction -- trails</td>
<td>0</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0</td>
</tr>
<tr>
<td>923</td>
<td>FEM -- vehicles/equipment</td>
<td>1</td>
<td>$200.44</td>
<td>$13.24</td>
<td>$5,000.00</td>
<td>$5,213.68</td>
<td>0</td>
</tr>
<tr>
<td>926</td>
<td>FEM -- roads/bridges</td>
<td>13</td>
<td>$2,605.72</td>
<td>$172.12</td>
<td>$2,000.00</td>
<td>$4,777.84</td>
<td>15</td>
</tr>
<tr>
<td>928</td>
<td>FEM -- fences</td>
<td>1</td>
<td>$200.44</td>
<td>$13.24</td>
<td>$500.00</td>
<td>$713.68</td>
<td>0</td>
</tr>
<tr>
<td><strong>All Totals</strong></td>
<td></td>
<td><strong>67</strong></td>
<td><strong>$13,429.48</strong></td>
<td><strong>$887.08</strong></td>
<td><strong>$53,740.00</strong></td>
<td><strong>$68,056.56</strong></td>
<td><strong>750</strong></td>
</tr>
</tbody>
</table>
12.12 Arthropod Control Plan
Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

For use in documenting an Arthropod control plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein.

Name of Designated Land:
Bell Ridge Longleaf Wildlife & Environmental Area

Is Control Work Necessary: ☐ Yes ☒ No

Location:
Bell Ridge Longleaf WEA, 531 NE CR 337, Trenton, FL 32693

Land Management Agency:
Florida Fish & Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ☐ Yes ☒ No

If "Yes", please explain:

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

☐ Landing Rate Counts ☐ Light Traps ☐ Sentinel Chickens
☐ Citizen Complaints ☐ Larval Dips ☐ Other

If "Other", please explain:
Anthropod Species for Which Control is Proposed:
None

Proposed Larval Control:
None

Proposal larval monitoring procedure:
Are post treatment counts being obtained:
☐ Yes  ☐ No

Biological Control of Larvae:
Might predacious fish be stocked:
☐ Yes  ☐ No

Other biological controls that might be used:
None

Material to be Used for Larviciding Applications:
(Please Check All That Apply)

☐ Bt
☐ Bs
☐ Methoprene
☐ Non-Petroleum Surface Film
☐ Other, please specify
Please specify the following for each larvicide:
Chemical or Common name:

☐ Ground  ☐ Aerial
Ratio of application:
Method of application:
Proposed Adult Mosquito Control:

- Aerial adulticiding: Yes [ ] No [ ]
- Ground adulticiding: Yes [ ] No [ ]

Please specify the following for each adulticide:
- Chemical or common name:
- Rate of application:
- Method of application:

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture. No modification will be needed.

Proposed Notification Procedure for Control Activities:
- Contact: Florida Fish & Wildlife Conservation Commission, North Central Regional Office, 3377 E. US HWY. 90, Lake City, FL 32055

Records:

- Are records being kept in accordance with Chapter 388, F.S.:
  - Yes [ ] No [ ]

Records Location: We have no arthropod control measures in place and therefore no records to maintain at this time.

How long are records maintained:
- We are not maintaining any records because there are no arthropod control measures implemented or proposed.
Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
None.

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed?
No.

Include proposed operational schedules for water fluctuations:
None.

List any periodic restrictions, i.e., applicable, for example peak fish spawning times:
None.

Proposed Modification of Aquatic Vegetation:
None.

Land Manager Comments:
There are no anthropoid control measures needed for this property.

Anthropoid Control Agency Comments:

______________________________  4/16/2012
s/ Christopher Tucker
Signature of Lands Manager or Representative  Date

______________________________  Date
Signature of Mosquito Control Director / Manager
12.13 Gilchrist County Letter of Compliance with Local Government Comprehensive Plan
May 8, 2014

Mr. Peter van de Burgt
Florida Fish and Wildlife Conservation Commission
Bryant Building
629 South Meridian Street
Tallahassee, FL 32399-1600

Re: Bell Ridge Longleaf Wildlife and Environmental Area Management Plan

Dear Mr. van de Burgt:

This letter confirms that the above referenced plan is consistent with the Gilchrist County Comprehensive Plan adopted pursuant to Section 163.3167, Florida Statutes. If you need additional information, please contact me at (352) 339-6325.

Sincerely,

[Signature]

Laura J. Dederbach, AICP
Gilchrist County Planner

cc: Bobby Crosby Jr., County Administrator