SILVICULTURAL PRESCRIPTION PROCESS

CHRISTOPHER HOPFINGER
USACE RIVERS PROJECT
ST. LOUIS DISTRICT
FORESTER

Christopher.hopfinger@usace.army.mil
DEFINITIONS

-SILVICULTURAL EXAMINATIONS
• Gathering of resource & site data
  • i.e. forest inventories, reforestation examinations/survival surveys.
  • The more data the BETTER!

-DIAGNOSIS OF TREATMENT NEEDS
• Following silvicultural examination
• Compiling, summarizing, analyzing, and recording of stand examination data.
• Can be accomplished several years before detailed prescription is prepared or in combination with.
• Record priority and proposed date of treatment in data base for long and short-range planning.
MORE DEFINITIONS

-DETAILED SILVICULTURAL PRESCRIPTION
• Written document describing management activities needed to implement a silvicultural treatment or treatment sequence.
• Documents the results of an analysis of present and anticipated site conditions and management direction.
• Describes desired future vegetation condition in measurable terms.
• Desired condition is a basis for treatment, monitoring, and evaluation.

-MONITORING AND EVALUATION
• Field measurements following treatment
  • Accomplished work meet RX?
  • Management objectives achieved?
  • Are remedial treatments needed?
  • Prescription improvement?
PRESCRIPTION DEVELOPMENT CONCEPTUAL

- EVALUATION OF SITE CAPABILITIES
- EVALUATION OF FOREST PLAN DIRECTION & OBJECTIVES
- DEPLOY DESIRED STAND CONDITION (Diagnosis)
- EXISTING STAND CONDITION (Diagnosis)
- DEVELOP TREATMENT POSSIBILITIES (Diagnosis)
- DETAILED SILVICULTURAL PRESCRIPTION
Evaluation of Site Capabilities

- Examine most recent summary data from stand examination.

- **Prioritize** areas in need of treatment based upon local factors which may include:
  1. Management Plan Direction
  2. Response to Insect or Disease
  3. Flooding, Fire, Wind
  4. Habitat Needs of T&E
  5. Invasive Species issues
  6. General Forest Health

- Identify habitat of threatened, sensitive, and endangered species in local area for both plant and animal species.
Evaluation of Site Capabilities Cont.

- Characterization of Landscape
  - Forest Cover Types
  - Structure Class
  - Disturbance Regimes
    - Floods, Fire, etc..
  - Habitat stage Groups
    - Early successional, Uneven-aged, etc.,

- Interpretation of Soils Data
  - NRCS Web Soil Survey
  - Collected soils data

- Evaluation of Site Attributes
  - HGM Analysis
  - Historic Natural Community
  - Potential Community Types
  - GLO Survey Notes
  - Hydrology of site
  - Flood frequency/duration
  - Elevation (LIDAR)
  - Topographic features
  - Forest Health Class
  - Aerial Imagery (Historic/Recent)
Evaluation of Forest Plan Direction & Objectives

- GOALS AND OBJECTIVES
  • GOAL 1:
    - A functional, sustainable floodplain ecosystem that includes a mosaic of native vegetation communities sufficient to support important wildlife habitat.
  • GOAL 1 OBJECTIVE:
    - Using the results of HGM, combined with other efforts as applicable, establish priority focus areas where restoration efforts are likely to have the most impact.
  • GOAL 2:
    - Restore and maintain forest diversity, health, and sustainability on Federal lands.
  • GOAL 2 OBJECTIVE:
    - Establish the ideal distribution of age and structure class in UMRS floodplain forests.
      (20 percent sapling (0-5 inch dbh)
      (35 percent pole (5-12 inch dbh) etc.....
## Existing Stand Condition

### Individual Stand Attributes
- Basal Area/acre
- Trees/acre
- Size Class Distribution
- Snags/acre
- Hardmast/Softmast
- Forest Community Types
- Overstory Closure
- Average Height (overstory/understory)
- Species Richness
- Age
- Diameter

<table>
<thead>
<tr>
<th>ST</th>
<th>AC</th>
<th>BA</th>
<th>TPA</th>
<th>POL</th>
<th>SAW</th>
<th>MAT</th>
<th>OVM</th>
<th>SNAG</th>
<th>HRD</th>
<th>SFT</th>
<th>#TR</th>
<th>#PL</th>
<th>COM_TYP</th>
<th>CLSR</th>
<th>HT</th>
<th>UND_HT</th>
<th>RICH</th>
<th>AGE</th>
<th>DBH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>6.8</td>
<td>52</td>
<td>17</td>
<td>0</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>31</td>
<td>6</td>
<td>2</td>
<td>28</td>
<td>37</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>23.4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8.1</td>
<td>165</td>
<td>29</td>
<td>29</td>
<td>15</td>
<td>16</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>66</td>
<td>4</td>
<td>6</td>
<td>85</td>
<td>91</td>
<td>8</td>
<td>6</td>
<td>1942</td>
<td>16.1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2.3</td>
<td>150</td>
<td>110</td>
<td>18</td>
<td>56</td>
<td>12</td>
<td>7</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>1</td>
<td>2</td>
<td>60</td>
<td>67</td>
<td>8</td>
<td>3</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3.5</td>
<td>100</td>
<td>65</td>
<td>18</td>
<td>32</td>
<td>9</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>60</td>
<td>75</td>
<td>13</td>
<td>4</td>
<td>16.8</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>9.7</td>
<td>100</td>
<td>55</td>
<td>14</td>
<td>19</td>
<td>12</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>50</td>
<td>5</td>
<td>3</td>
<td>66</td>
<td>64</td>
<td>11</td>
<td>6</td>
<td>1964</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2.9</td>
<td>40</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>90</td>
<td>79</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>28.2</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>8.5</td>
<td>163</td>
<td>96</td>
<td>21</td>
<td>39</td>
<td>15</td>
<td>15</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>65</td>
<td>4</td>
<td>2</td>
<td>63</td>
<td>57</td>
<td>9</td>
<td>5</td>
<td>17.6</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>3.3</td>
<td>80</td>
<td>78</td>
<td>51</td>
<td>14</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>70</td>
<td>77</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>13.8</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>10.3</td>
<td>105</td>
<td>85</td>
<td>33</td>
<td>34</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>42</td>
<td>4</td>
<td>6</td>
<td>80</td>
<td>78</td>
<td>10</td>
<td>6</td>
<td>1949</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>2.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>16</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>6.2</td>
<td>90</td>
<td>79</td>
<td>47</td>
<td>20</td>
<td>3</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>3</td>
<td>2</td>
<td>90</td>
<td>78</td>
<td>11</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>12.6</td>
<td>55</td>
<td>27</td>
<td>0</td>
<td>16</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>22</td>
<td>4</td>
<td>2</td>
<td>50</td>
<td>56</td>
<td>14</td>
<td>7</td>
<td>1945</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>2.8</td>
<td>50</td>
<td>226</td>
<td>226</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>226</td>
<td>5</td>
<td>11</td>
<td>100</td>
<td>25</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>6.4</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>4.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>25.6</td>
<td>45</td>
<td>169</td>
<td>160</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>36</td>
<td>8</td>
<td>3</td>
<td>90</td>
<td>47</td>
<td>19</td>
<td>3</td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>9.2</td>
<td>32</td>
<td>166</td>
<td>151</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>5</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>76</td>
<td>35</td>
<td>13</td>
<td>3</td>
<td>0</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>4.3</td>
<td>95</td>
<td>77</td>
<td>25</td>
<td>30</td>
<td>11</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>19</td>
<td>2</td>
<td>7</td>
<td>70</td>
<td>78</td>
<td>10</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>6.4</td>
<td>77</td>
<td>49</td>
<td>5</td>
<td>18</td>
<td>12</td>
<td>4</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>23</td>
<td>3</td>
<td>6</td>
<td>80</td>
<td>82</td>
<td>13</td>
<td>7</td>
<td>1973</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>8.6</td>
<td>67</td>
<td>32</td>
<td>5</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>3</td>
<td>2</td>
<td>73</td>
<td>79</td>
<td>13</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>4.5</td>
<td>145</td>
<td>55</td>
<td>0</td>
<td>25</td>
<td>13</td>
<td>14</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>2</td>
<td>3</td>
<td>80</td>
<td>105</td>
<td>18</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>4.6</td>
<td>80</td>
<td>82</td>
<td>33</td>
<td>24</td>
<td>8</td>
<td>7</td>
<td>11</td>
<td>12</td>
<td>0</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>75</td>
<td>86</td>
<td>23</td>
<td>6</td>
<td>1947</td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>14.6</td>
<td>8</td>
<td>12</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>15</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>5.3</td>
<td>105</td>
<td>73</td>
<td>39</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>21</td>
<td>2</td>
<td>2</td>
<td>80</td>
<td>88</td>
<td>6</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>3.3</td>
<td>40</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>73</td>
<td>13</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>16.7</td>
<td>49</td>
<td>140</td>
<td>107</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>39</td>
<td>8</td>
<td>6</td>
<td>56</td>
<td>36</td>
<td>14</td>
<td>6</td>
<td>1964</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>25.7</td>
<td>134</td>
<td>98</td>
<td>43</td>
<td>25</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>121</td>
<td>9</td>
<td>2</td>
<td>83</td>
<td>86</td>
<td>8</td>
<td>8</td>
<td>1954</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>14.7</td>
<td>24</td>
<td>142</td>
<td>142</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>5</td>
<td>2</td>
<td>64</td>
<td>20</td>
<td>15</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>3.0</td>
<td>80</td>
<td>57</td>
<td>8</td>
<td>40</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>85</td>
<td>76</td>
<td>18</td>
<td>2</td>
<td>1955</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>6.9</td>
<td>120</td>
<td>97</td>
<td>47</td>
<td>23</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>0</td>
<td>28</td>
<td>36</td>
<td>3</td>
<td>6</td>
<td>67</td>
<td>89</td>
<td>11</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>12.2</td>
<td>92</td>
<td>42</td>
<td>0</td>
<td>21</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>46</td>
<td>5</td>
<td>2</td>
<td>70</td>
<td>77</td>
<td>10</td>
<td>7</td>
<td>1939</td>
</tr>
</tbody>
</table>

### Cuivre Island Stand Summary Table
RECORD ALL POSSIBLE INFORMATION ON THIS SHEET PRIOR TO STAND WALK
Existing Stand Condition

FIELD TIME

-STAND DIAGNOSIS

• Traverse stand

• Compare stand attributes on RX sheet to field observations. Make notes
  - EX. > Species composition/structure observations, Soil texture, basal area, etc...

• DOES YOUR DATA AGREE WITH YOUR VISUAL OBSERVATIONS?
  - Remember the more DATA the BETTER!
  - Collect more data or take notes.
  - Are you comfortable with the prescription writing based on your observations and comparison of current data? Your decision.

- Use your professional judgment
Develop Desired Stand Condition

STILL IN THE FIELD

- STAND DIAGNOSIS
  - Look for Quantifiable Conditions that may warrant active management.
  - Assess overall Forest Health
  - Identify wildlife habitat opportunities
  - Assess advanced regeneration of desirable species/competition.
  - Note any special features (cultural resources)
  - Consider recreation setting
  - Identify signs, symptoms of significant current or potential insects, diseases, and animal pests.
  - Evaluate the effects of succession
  - Evaluate the potential for mortality due to:
    - Competing vegetation, invasive species, density, disturbance agents

### Forest Variables

<table>
<thead>
<tr>
<th>Forest Variables</th>
<th>Desired UMRS Stand Structure</th>
<th>Conditions that may warrant active management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overstory canopy cover</td>
<td>70 – 80%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>Overstory Species</td>
<td>2 species or more</td>
<td>large blocks of single species</td>
</tr>
<tr>
<td>Basal area</td>
<td>90-140 ft² / acre with =25% in older age classes</td>
<td>&gt;200 ft² / acre</td>
</tr>
<tr>
<td>Tree stocking</td>
<td>NA</td>
<td>&lt; 50% or &gt; 90%</td>
</tr>
<tr>
<td>Emergent trees</td>
<td>&gt; 2 / acre</td>
<td>&lt; 1 / acre</td>
</tr>
<tr>
<td>Understory cover</td>
<td>&gt; 10%</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>Regeneration</td>
<td>&gt; 10% of area</td>
<td>&lt; 10% of area</td>
</tr>
<tr>
<td>Coarse woody debris</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Small cavities (&lt; 10 inch diameter)</td>
<td>= 2 visible holes/acre</td>
<td>&lt; 2 visible holes/acre</td>
</tr>
<tr>
<td>Den trees/large cavities (&gt; 10 inch diameter)</td>
<td>= 1 visible hole / 10 acres mature timber</td>
<td>&lt; 1 visible holes / 10 acres</td>
</tr>
<tr>
<td>Standing dead and/or stressed trees</td>
<td>= 2 large trees / acre</td>
<td>&lt; 2 large trees / acre</td>
</tr>
<tr>
<td>Invasive herbaceous</td>
<td>&lt; 10%</td>
<td>&gt; 10% of herbaceous layer</td>
</tr>
<tr>
<td>Invasive woody</td>
<td>&lt; 10%</td>
<td>&gt; 10% of any canopy layer</td>
</tr>
</tbody>
</table>

UMR Systemic Forest Stewardship Plan 2012
Develop Desired Stand Condition Cont.

STILL IN THE FIELD
- STAND DIAGNOSIS
• Describe desired stand in terms of:
  - Taxonomic composition/species or successional stage by layer or story
  - Structure (e.g. stocking, size classes, spatial variation within stand)
  - Other attributes (growth rates, vigor, risk rating)
Develop Treatment Possibilities/Alternatives

**EVALUATION (Field/Office)**
- Evaluate the relationship of the stand or project to the overall landscape
- Consider vegetative patterns and flows at the landscape level

**SILVICULTURAL SYSTEMS**
- Determine feasible alternative silvicultural systems and initial treatments
- Determine if available treatment alternatives will achieve land management objectives

**ALTERNATIVES IN TERMS OF:**
- Forest Regulation and Sustainability
- Regeneration
- Method of Regeneration Cuttings
- Artificial/Natural regeneration
- Utilize Growth and Yield Models if available

Forest Vegetation Simulator Model (FVS)
Develop Treatment Possibilities/Alternatives

EVALUATION Cont.

• ALTERNATIVES IN TERMS OF:
  - Intermediate Treatments (Release, thinning)
  - Forest restoration
  - Determine feasibility of returning stands to more historic conditions
  - Determine feasibility of restoring historical ecological processes in relationship to stand conditions

• Remember to evaluate the NO ACTION Alternative.
### Detailed Silvicultural Prescription

**Elements of Detailed Prescription:**
- Site and stand conditions
- Desired stand conditions
- Short and long term objectives (Quantifiable Measures)
- Prescribed treatments and implementation
- Establishment of tree marking guidelines
- Describe resource protection/coordination measures
- Describe cultural treatments in terms of e.g.:
  - Planting stock, planting densities, residual vegetation density, timing
- Timeline of Treatments
- Include Monitoring and Evaluation Plan

<table>
<thead>
<tr>
<th>Stand</th>
<th>Desired Structure/Community</th>
<th>Treatment Type</th>
<th>Specifications</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Uneven-age/cottonwood/maple</td>
<td>Intermediate; TSI &amp; under-plant</td>
<td>Girdle midstory, plant RPM Cottonwood</td>
<td>8</td>
</tr>
<tr>
<td>15</td>
<td>Uneven-age/mixed</td>
<td>Intermediate; TSI &amp; under-plant</td>
<td>Reduce stocking by 1/3, release hardmast, plant</td>
<td>26</td>
</tr>
<tr>
<td>16</td>
<td>Even-age/mixed</td>
<td>Intermediate; Crop Tree Release</td>
<td>Release silver maple, girdle and fell</td>
<td>9</td>
</tr>
<tr>
<td>26</td>
<td>Even-age/cottonwood/</td>
<td>Regeneration, Seed Tree Harvest</td>
<td>Leave 10-15 residual basal area Cottonwood, soil scarification, chainsaw fell small hardwoods</td>
<td>26</td>
</tr>
<tr>
<td>31</td>
<td>Uneven-age/mixed</td>
<td>Intermediate, TSI &amp; reforestation</td>
<td>Plant &amp; treat giant ragweed</td>
<td>4</td>
</tr>
<tr>
<td>35</td>
<td>Uneven-age/mixed</td>
<td>Intermediate, TSI, thin &amp; under-plant</td>
<td>Remove tree mats, suplemental plant, thin</td>
<td>13</td>
</tr>
<tr>
<td>42</td>
<td>Uneven-age/mixed</td>
<td>Intermediate, TSI &amp; reforestation</td>
<td>Release existing hardmast, create canopy gaps, plant</td>
<td>39</td>
</tr>
<tr>
<td>54</td>
<td>Uneven-age/mixed</td>
<td>Intermediate, TSI &amp; thin, reforest gaps</td>
<td>Plant higher elevations, reforest canopy gaps, thin saplings</td>
<td>27</td>
</tr>
<tr>
<td>55</td>
<td>Uneven-age/mixed</td>
<td>Reforestation</td>
<td>Plant canopy gaps/food plots</td>
<td>9</td>
</tr>
<tr>
<td>58</td>
<td>Uneven-age/mixed</td>
<td>Reforestation</td>
<td>Plant bare root Cottonwood/Sycamore, treat giant ragweed</td>
<td>8</td>
</tr>
<tr>
<td>61</td>
<td>Uneven-age/mixed</td>
<td>Reforestation</td>
<td>Plant cuttings/bare root, treat giant ragweed</td>
<td>10</td>
</tr>
</tbody>
</table>

**Forest Management Plan Cuivre Island**
Silvicultural Prescription
PRESCRIPTION DEVELOPMENT CONCEPTUAL

- EVALUATION OF SITE CAPABILITIES
  - EVALUATION OF FOREST PLAN DIRECTION & OBJECTIVES
  - DEVELOP DESIRED STAND CONDITION (Diagnosis)
    - EXISTING STAND CONDITION (Diagnosis)
      - DEVELOP TREATMENT POSSIBILITIES (Diagnosis)
        - DETAILED SILVICULTURAL PRESCRIPTION