Research Framework at ESRF

The next century
OSU College of Forestry Exploratory Committee

- Katy Kavanagh – Associate Dean of Research
- Matt Betts – Landscape ecologist (emphasis on biodiversity)
- Ashley D’Antonio – Recreational ecologist (managing environmental consequences of nature-based recreation)
- Shannon Murray – College of Forestry (Continuing Education Program Coordinator)
- Klaus Peuttmann – Silviculture (focus on forest ecology)
- Meg Krawchuk – Landscape ecologist (fire & conservation science)
- John Sessions – Forest Engineer (Forest Operations Planning & Management)
- Ben Leshchinsky – Geotechnical engineer with a focus on forest road design, hydrologic process, landslides, slope stability
- Jennifer Bakke – Wildlife Biologist (Environmental services manager with Hancock Natural Resource Group)
Exploratory Committee

• **Goal:** To maximize participation and dialogue in the College around the feasibility and opportunity for establishing an Elliott State Research Forest.
  • Objective 1: Identify what a world-class research program at the forest would include.
  • Objective 2: Collaboratively develop the vision and goals that would position the Elliott State Research Forest to serve as a world-leading source of scientific knowledge and discovery in advancing forest management and conservation.
Guiding Principles

• **Research**: Advance and sustain transformational research

• **Enduring**: Remain relevant across many years, generations, and social, economic and environmental contexts

• **At Scale**: Leverage the unique opportunity the forest offers for experiments at large spatial and long temporal scales.

• **Tailored to the Landscape**: will be tailored to the Elliott based on existing biological, physical, social, and economic conditions.

• **Practical, Relevant, and Collaborative**: Programs conducted on the forest must be relevant to forestry issues and challenges
Overarching Research Theme

• Systems-level understanding of synergies and tradeoffs for conservation, production, and livelihood objectives on a forested landscape within a changing world.
Conservation Research Watersheds

• Protected areas designated to prioritize the conservation of listed species and their terrestrial and aquatic habitats.

Management Research Watersheds

• 46 sub watersheds
• Replications of the four management treatments

Total Analysis Area = 82,480 acres

DSL Lands Only
Elliott State Research Forest
Percent of watershed area less than 60 years old.

<table>
<thead>
<tr>
<th></th>
<th>Stands &gt; 60</th>
<th>Stands &lt; 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation Emphasis Watersheds</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Multiple Objective Watersheds</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>All Elliott</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
The triad design is a triangle with its endpoints being reserve, intensive and extensive stand management practices applied in varying proportions to individual sub watersheds (400-2000ac).
Watershed 111
Rhombus Reach
Triad-I
1,375 acres

<table>
<thead>
<tr>
<th>111</th>
<th>Rhombus Reach</th>
<th>Percent of Total Acres</th>
<th>Percent Net of RMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve</td>
<td>485</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Intensive</td>
<td>485</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Extensive</td>
<td>242</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>RMA</td>
<td>163</td>
<td>12%</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>1,375</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Reserve
- Intensive
- Extensive
- RMA

Stand age greater than 65
MMMA/NSO Designation

Draft 3/12/2020
Age Class Distribution by Allocation

- Reserve
- RMA
- Intensive
- Extensive

Acres

Age Class

Draft 3/18/2020
Using this framework the fundamental aspiration for an ESRF is to:

- have an experimental framework that is broadly applicable,
- capable of testing basic knowledge,
- answering why and how,
- be based on experimentation,
- developing and deploying solutions
- all while maintaining the capability of addressing the current and next generation of forest-related research and policy questions.

Ortwig et al 2018. Eastern Hemlock