Forest Operations Training Program: career paths for forestry machine operators, truck drivers, and maintenance & repair professionals

SWERI Wood Utilization Team; Fall 2021 Seminar
18 November 2021; Albuquerque, NM

Richard M. Edwards, CF; Research Associate
Forest Operations & Biomass Utilization Program
WESTERN FOREST SITE CONDITIONS: SETTING THE STAGE

➢ Overcrowded, unhealthy stands

➢ Insect infestations; drought

➢ Large-scale wildfires

➢ Heavily impacted watersheds

Source: Luke Runyon, KUNC
Dogs & Cats Living Together?

NO, WAIT............
(We need solutions!)
THE SOLUTION: FOREST RESTORATION & FUELS REDUCTION THINNING TREATMENTS

Before:

Overstocked stand

After:

Restored Stand
Q & A:
Q: HOW WILL THE WORK BE ACCOMPLISHED?

A: Tools & Talent
- Machines
- People
- Trucks
- Know How

Source: Construct Connect Canada
Q: Do We Have The Available Workforce?

A: Not According To Our Contractor Survey & a Recently Completed Economic Study Involving a Large USDA Forest Service Stewardship Project in Arizona
### Barriers to Success

<table>
<thead>
<tr>
<th>Relative Rank</th>
<th>Barriers</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Finding skilled workers</td>
<td>2.67</td>
</tr>
<tr>
<td>2</td>
<td>Limited access to forest products markets</td>
<td>3.79</td>
</tr>
<tr>
<td>3</td>
<td>Limited contract availability</td>
<td>3.95</td>
</tr>
<tr>
<td>4</td>
<td>High transportation costs</td>
<td>4.59</td>
</tr>
<tr>
<td>5</td>
<td>Lacking the appropriate equipment for the job</td>
<td>5.56</td>
</tr>
<tr>
<td>6</td>
<td>Short operating seasons</td>
<td>5.57</td>
</tr>
<tr>
<td>7</td>
<td>Strict merchandising specifications and biomass disposal requirements of landowners</td>
<td>6.15</td>
</tr>
</tbody>
</table>

33 of 66 respondents identified “Finding skilled workers” as the #1 barrier to success
Reason for relying on internal training

- Only Option: 85%
- External Too Expensive: 11%
- External Low Quality: 4%
Largest forest restoration stewardship project in the US stretching from the Grand Canyon in the NW to the New Mexico state line in the SE

Overall goal is to plan & implement forest restoration treatments of ponderosa pine forests along Arizona’s Mogollan Rim across approx. 2.4 M acres of the total 8.3 M acre National Forest footprint

Original goal was to treat 50,000 acres per year for 20 years

Source: Arizona Commerce Authority
FOUR FOREST RESTORATION INITIATIVE (4FRI) IN ARIZONA
MECHANICAL THINNING AND WOOD UTILIZATION EMPLOYMENT
FOR FY 2017
(HJERPE AND MOTTEK-LUCAS 2021)

<table>
<thead>
<tr>
<th>Job Description</th>
<th>FTE Annual Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial logging</td>
<td>57.7</td>
</tr>
<tr>
<td>Support activities for agriculture and forestry</td>
<td>13.6</td>
</tr>
<tr>
<td>Electric power generation – Biomass</td>
<td>25.0</td>
</tr>
<tr>
<td>Maintenance and repair construction of highways and bridges</td>
<td>5.2</td>
</tr>
<tr>
<td>Sawmill</td>
<td>87.2</td>
</tr>
<tr>
<td>All other miscellaneous wood product manufacturing</td>
<td>8.0</td>
</tr>
<tr>
<td>Truck transportation</td>
<td>25.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>222.1</strong></td>
</tr>
</tbody>
</table>

12,450 acres treated in 2017

222 jobs

Goal: 50,000 acres/year

800 – 1,000 jobs
A Vision:

“The vision is to build a training program that provides training for forest equipment operators, logging truck drivers, and equipment repair specialists to build the workforce capacity required to carry out the necessary restoration and ongoing management of the southwestern forests.”

- Dr. Han-Sup Han, 2020
  Director; Forest Operations & Biomass Utilization Program, NAU Ecological Restoration Institute

& A 4-Phase Process:

- Planning
- Implementation
- Construction
- Sustainability
As per USDC Economic Development Administration’s Good Jobs Challenge Notice of Funding Opportunity Includes:

Northern Arizona University as **System Lead Entity** & **4 Sectoral Partnerships** with associated backbone organizations and partners:

1. **Forestry Industry** - Coconino County
2. **Government** – Coconino County
3. **Community-based Organizations** - Northern Arizona Council of Governments
4. **Education** – Coconino Community College

Creates collaboration & engagement to develop a demand-driven and equitable forestry workforce training system that supports quality jobs and career paths
FUNDING SOURCES

• US Dept. of Commerce’s Economic Development Administration (EDA)
• $350k Oct 2020 – Sep 2022; Current EDA planning grant
  ➢ Training programs & curriculum development
  ➢ Establishing collaboration & partnerships
  ➢ Development of strategies for financial sustainability, student recruitment, and job deployment
• $5M EDA implementation grant – application in progress
• Training programs to be offered by spring 2023
• Construction – potential facility sites being evaluated; process initiated
• Third EDA construction grant – application process will begin in January 2022
• Sustainability of program - will be an ongoing effort! Initial plan will be contained in the implementation grant
FOTP TARGET AUDIENCES:

- Displaced workers from closed coal-powered plants & mines
- High school graduates
- Native Americans
- Post-incarceration skill development initiatives
- Veterans

Source: East Valley Institute of Technology

Source: Rural Technology Initiative
FOTP CAREER PATHS:

- Forest Equipment Operator
- Heavy Equipment Maintenance & Repair Professional
- CDL Truck Driver

Source: East Valley Institute of Technology

Source: Rural Technology Initiative
FOTP KEY PARTNERS:

- Arizona Dept. Forestry & Fire Mgt.
- Community Colleges
- Equipment Manufacturers
- N. Arizona COG Counties
- Northern Arizona University
- State of Arizona
- USDA Forest Service
- Others…(& TBD)
- &…….

Source: East Valley Institute of Technology

Source: Rural Technology Initiative
Perhaps, you!

Thank you!
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