Northwest Florida Water Management District

Strategic Planning for a Long-term Fiscally Viable Land Management Program
Background

Manage 211,152 acres - Approx. 46,500 acres
Sand, Longleaf, Slash and Loblolly Pines

Prior to 2013

- **Restoration:** harvest sand pine; thin slash and loblolly; plant longleaf
- **Budget (average annual):** approx. $4M
- **Pine timber harvest revenues (average budgeted):** $750,000 annually
- **Land management fund balance (FY 2012-2013):** approx. $8M

2013 - Present

- **Restoration:** planting of 2.82M tubelings on 4,287 acres
- **Budget (average annual):** approx. $2.65M
- **Pine timber harvest revenues (average budgeted):** $1.70M
- **Land management fund balance (FY 2015-2016):** $5.3M
District Manages 211,152 acres - Approximately 46,500 acres of pine stands

Pine Stands Comprised Primarily of:

- **Sand** (Offsite)
- **Longleaf** (Natural & Restored)
- **Slash and Loblolly** (Plantations)
What We THINK We Know!

Guesstimating merchantable pine timber revenue at $18.42M, the District can sustain an annual pine timber harvest of $2M annually for approximately:

- 6 years using sand pine clearcut harvests; and
- 3.2 years using loblolly, slash and longleaf pine thinning

Total 9 years of revenue using all merchantable pine timber

Bottom-line

Program May Not Be Fiscally Sustainable At Current Levels
Strategic Questions

Sand, Slash, Loblolly, and Longleaf pine timber

• In fact, how long can pine timber harvesting (all species) generate revenues of $2M+ annually?

Longleaf pine timber

• When will restored longleaf reach merchantability?
• How much volume can be selectively and sustainably harvested?
• What is the expected annual revenue?
Building The Strategic Plan

FIRST
1. Develop comprehensive inventory of current pine species and volumes.

THEN
3. Utilize inventory and growth and yield data to:
   • determine optimal and sustainable thinning and select harvests, and
   • management schedules that maximize revenues.
How Do We Implement Step 1
- Inventory Pine Resources on 40,541 Acres -

2013/2015, F4 Tech developed forest inventory specifications; conducted QA/QC audits of two pine forest inventories; and developed a land management database.

- Phase I – 28,729 acres on the Econfina Creek WMA.
- Phase II – 11,812 acres on Choctawhatchee, Chipola, and Apalachicola River WMAs.

Inventories completed represent >85% of pine resources.
How Do We Implement Step 2
- Predict Future Growth and Yields -

• Utilized *SilvAssist* software to process raw forest inventory data into a usable format.

• Upload formatted data into U.S. Forest Service’s *Forest Vegetation Simulator (FVS)*.

• Utilizing the pine forest resource database, determine growth and yield as stands transition into old growth, unevenaged management.
How Do We Implement Step 3 – Conduct Strategic Forest Planning –

**FIRST** - Develop a *Forest Information Dashboard* system to predict, manage, report and track (in real time) land and resource operations and costs.

**THEN** - Utilize predicted yield volumes and timing, and the forest management costs, to develop a strategic plan that maximizes harvest revenues.
Strategic Harvest Planning
- Remsoft Tabular Result Examples -

- Total yields
- Total yields by pine species
- Total yields by harvest type (action)
- Acres by pine species
- Acres by condition (thinned or unthinned)
- Average tons/acre clearcut and thinned
- Total standing inventory
- Total acres clearcut

- Planted area (acres) by pine species
- Total planted area
- Total harvest revenue
- Present value revenues
- Planting cost by pine species
- Present value – planting costs
- Net harvest revenue
- Net present value
Strategic Harvest Planning
- Remsoft (Remsoft) Spatial Planning System -

Slash Total Yield
Loblolly Total Yield
Sand Total Yield
Strategic Harvest Planning
- Remsoft (Remsoft) Spatial Planning System cont.

Harvest Yields by Pine Product and Total Yields by Type of Harvest
Strategic Harvest Planning
- Remsoft Spatial Results -

Location and Harvest Year(s) For Individual Pine Stands
(example)
Result

Detailed, **Real Time Programmatic Awareness**

- **Forestry resources** (reforestation, harvesting, revenue, etc.):
  
  Inventory, Conditions, Total Yields, Present Value – Planting Costs, Net Harvest Revenue, Net Present Value, etc.

- **Infrastructure** (roads, bridges, gates, signs, etc.):
  
  location, condition, maintenance and replacement schedules, etc.

- **Land management and maintenance & activities:**
  
  prescribed fire, vegetation management, sand pine/HDWD eradication, etc.
Remember Our Strategic Questions

• How long can the District generate $2.0M annually from timber harvests?

• When will longleaf resources reach merchantability; how much can be sustainably harvested; and what is the expected annual revenue?

These Questions Are Just the Beginning
Once harvested/thinning is complete (est. 9-yrs) -

Q: How long and to what level will the program need to depend on outside appropriations while future growth and yield reach a sustainable harvesting level?

Once a sustainable old growth unevenaged regime is reached (est. 25 years or more depending on species) -

Q: Can the production of large volume, high value sawtimber, veneer and pole products fund all or a significant portion of its land management operations budget?
The District’s Strategic Forest Planning Initiative Will Make It Possible To Make Truly Informed Resource Management Decisions

Questions?
Thank You

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