ACCELERATING LONGLEAF RESTORATION
Collaborative Forest Landscape Restoration Program (CFLRP)
U.S.D.A. Forest Service
National Forests in Florida
H. Scott Ray, Carl Petrick, & Susan Jeheber-Matthews
“Our shared vision begins with restoration. Restoration means managing forest lands first and foremost to protect our water resources, while making our forests more resilient to climate change.”

“We will increase our focus on restoration of our forest and grassland ecosystems; restoration to increase resilience to ensure these systems are able to adapt to changes in climate.”

Tom Vilsack
USDA Secretary

Tom Tidwell
Forest Service Chief
Background:

The Omnibus Act of 2009

- The Collaborative Forest Landscape Restoration Program was authorized in Title IV of the Omnibus Public Land Management Act of 2009 (Omnibus Act)

- A Federal Advisory Committee was established to evaluate and recommend proposals for funding. The panel met in July 2010 in an open meeting and recommended 10 projects for funding
Background: Purpose of CFLR

• From Title IV of the Omnibus Act: “The purpose of this title is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes through a process that
  – encourages ecological, economic, and social sustainability;
  – leverages local resources with national and private resources;

• Requirements include:
  – A 10 year restoration strategy that is complete or substantially complete that identifies and prioritizes ecological restoration treatments across a 50,000 acre or larger landscape on primarily National Forest System lands
  – Must be developed and implemented through a collaborative process
  – Incorporates best available science and application tools
  – demonstrates the degree to which--
    • Various ecological restoration techniques--
      – achieve ecological and watershed health objectives; and
      – affect wildfire activity and management costs; and
    • the use of forest restoration byproducts can offset treatment costs while benefitting local rural economies and improving forest health.”
## Background: 2010 Projects

<table>
<thead>
<tr>
<th>Region</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Southwestern Crown of the Continent</td>
</tr>
<tr>
<td>1</td>
<td>Selway- Middle Fork Clearwater</td>
</tr>
<tr>
<td>2</td>
<td>Uncompahgre Plateau</td>
</tr>
<tr>
<td>2</td>
<td>Colorado Front Range</td>
</tr>
<tr>
<td>3</td>
<td>4 Forest Restoration Initiative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Southwest Jemez Mountains</td>
</tr>
<tr>
<td>5</td>
<td>Dinkey Landscape</td>
</tr>
<tr>
<td>6</td>
<td>Deschutes Skyline</td>
</tr>
<tr>
<td>6</td>
<td>Tapash</td>
</tr>
<tr>
<td>8</td>
<td>Accelerating Longleaf Pine Restoration</td>
</tr>
</tbody>
</table>
# Background: 2012 Projects

<table>
<thead>
<tr>
<th>Region</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kootenai Valley Resource Initiative</td>
</tr>
<tr>
<td>3</td>
<td>Zuni Mountain</td>
</tr>
<tr>
<td>4</td>
<td>Weiser-Little Salmon Headquarters</td>
</tr>
<tr>
<td>5</td>
<td>Burney-Hat Creek Basins Project</td>
</tr>
<tr>
<td>5</td>
<td>Amador-Calaveras Consensus Group Cornerstone Project</td>
</tr>
<tr>
<td>6</td>
<td>Northeast Washington Forest Vision 2020</td>
</tr>
<tr>
<td>8</td>
<td>Ozark Highlands Ecosystem Restoration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Lakeview Stewardship CFLR Proposal</td>
</tr>
<tr>
<td>6</td>
<td>Southern Blues Restoration Coalition</td>
</tr>
<tr>
<td>8</td>
<td>Shortleaf-Bluestem Community</td>
</tr>
<tr>
<td>8</td>
<td>Grandfather Restoration Project</td>
</tr>
<tr>
<td>9</td>
<td>Missouri Pine-Oak Woodlands Restoration Project</td>
</tr>
<tr>
<td>8</td>
<td>Longleaf Pine Ecosystem Restoration and Hazardous Fuels Reduction</td>
</tr>
</tbody>
</table>
Why the Osceola NF?

WILDFIRE RISK
Why the Osceola NF?

The Osceola and adjacent lands have been plagued by wildfires.
Why the Osceola NF?

Prior to CFLRP, over 31 million dollars were expended on wildfire suppression with a wildfire rehabilitation cost of 3.6 million dollars.
The Bugaboo Fire in 2007 was the largest wildfire east of the Mississippi and closed Interstates 10 & 75 for days.
Focus on Longleaf Pine

The Range-wide Conservation Plan For Longleaf Pine

• Developed by a Regional Working Group representing 22 organizations

• Supported by USDA Forest Service, Dept. of Defense, and U.S. Fish & Wildlife Service

• Released in March 2009
Why The Osceola National Forest

- The Forest is located within one of the significant longleaf pine conservation areas
The Longleaf Ecosystem Connects Many Focus Areas

- T&E and Sensitive Species Habitat
- Climate Change mitigation
- Woody biomass developments
- Watershed health
- Economic viability
CFLR GOAL AREA LAND OWNERSHIP

Legend
- GOAL Area Boundary
- Land Ownership
- OwnerType
  - Federal - USDA FS
  - Federal - USFWS
  - Local
  - Private - Conservation Easement
  - Private - Industrial Timberland
  - Private - Non-Industrial
  - State

OKEFENOEKE
NWR
JBSF
OSCEOLA NF

567,742 Acres
Planning and Prioritization

How do we assess current conditions and prioritize treatments?
The forest developed an Ecological Condition Model (ECM) to assess current conditions relative to desired conditions using prioritization models for fire, timber harvest, and mechanical fuel reduction.
Purpose of ECM

Dramatically increase the health of forest ecosystems at a landscape scale by:

• Assessing current Ecological Condition vs. Desired Condition using ranked tiers

• Maximizing integration of program areas and dollars

• Prioritizing treatment areas and activities

• Balancing restoration with maintenance

• Increasing management efficiencies
Desired Condition of Pine Flatwoods

- Fire: Vegetation patterns determined by Rx burning and sustainable harvest
- Overstory: Mature pine forest with multiple age classes
- Midstory: No hardwood midstory
- Understory: Intact and healthy native pyrogenic groundcover
- Wildlife: Healthy populations of typical native species
Tier Classification

Tier 1
Excellent/ Maintenance Condition

Tier 2
Good/ Maintenance Condition

Tier 3
Fair/ Transitional Condition, Some Restoration Required
Tier Classification

**Tier 4**
Poor Condition, Restoration Required

**Tier 5**
Very Poor Condition, Restoration Required
OSCEOLA ECM Inputs

- Basal Area
- Stand age
- Fire
  - Fire severity
  - Number of fires
  - Time since last fire
ECM Input

Basal Area Tier Score

Stand Age Tier Score

Overall Fire Tier Score

2009 ECM Results

40%

20%

40%

40%
The ECM revealed that almost 50% of the Osceola NF is in poor ecological condition.
2009 ECM
Tier Classes

Flatwoods Condition

Good-Excellent (Tier 1,2)
13%

Transitional (Tier 3)
40%

Poor-Very Poor (Tier 4,5)
47%
Prioritization Input Layers:

- ECM Tiers
- Proximity to ECM Tier 1 and Tier 2 Areas
- WUI
- RCW Foraging Areas
- Time Since Last Fire
- Number of Fires (1998-2009)
Prioritization Models:

- Fire Prioritization (Maintenance Emphasis)
- Fire Prioritization (Heavy Fuels and RCW)
Prioritization Models:

- Mechanical Fuels Treatment
- Timber Thinning
Benefits

1. ECM process results in interdisciplinary synergy
2. Maximizes analytical powers of GIS for land management planning
3. Tracks changes in ecosystem condition
4. Provides an essential mid-level planning tool
5. Allows more open and transparent management decisions
6. Facilitates collaboration with public/private agencies and stakeholders
7. Facilitates development of DFCs and Objectives during Forest Plan revision
8. Demonstrates management progress (e.g., annual monitoring report)
9. Displays possible future landscape conditions resulting from different management scenarios
Implementation Activities
Implementation Activities

• Removal of off-site pine and restore to longleaf
• Understory restoration via palmetto reduction
• Release and weeding of young longleaf
• Fuel Reduction
  – Thinning
  – Mastication
  – Rx Fire
CFLRP Implementation

1. Double the annual prescribed fire acreage to 50,000 acres

2. Mechanically reduce fuel loads on 10,000 acres

3. Increase timber harvest from thinning less than 2,000 acres a year to 5,000 acres a year for the next 10 years

4. Restore ground cover by light roller chopping 21,000 acres followed by application of prescribed fire

5. Restore hydrology by correcting known problems on 309 miles of roads and 90 miles of old fire lines

6. Assistance for state and private land cooperators to conduct restoration treatments
How are we sequencing work?
Thin, Chop, and Burn
Thinning and Regeneration
Palmetto Chopping
Palmetto Chopping
Palmetto Chopping
Pre- and Post-Treatment
Prescribed Fire
Mulching
Mulching
Pre- and Post-Treatment
Row Mowing
Pre- and Post-Treatment
Reforestation
Timber Stand Improvement
Pre- and Post-Treatment
Wildlife Habitat Enhancement
Measuring Success
CFLR Program Accomplishments on the Osceola National Forest (2010-2012)

- 100,964 acres of fuels reduction (29,183 WUI)
- 56,006 acres of wildlife habitat improvement
- 3,382 acres of groundcover restoration
- 6,741 acres converted from slash pine to longleaf
- 79,704 cubic feet of timber sold
- 8,852 acres of forest lands treated through timber sales
# Acres Treated

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Acres Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>67,527</td>
</tr>
<tr>
<td>2011</td>
<td>45,858</td>
</tr>
<tr>
<td>2012</td>
<td>62,354</td>
</tr>
</tbody>
</table>
## Total Acres Treated

<table>
<thead>
<tr>
<th>Years</th>
<th>Acres Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2012</td>
<td>175,739</td>
</tr>
</tbody>
</table>
# Footprint Acres Treated

<table>
<thead>
<tr>
<th>Years 2010-2012</th>
<th>Acres Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2012</td>
<td>157,462</td>
</tr>
</tbody>
</table>
2010 CFLRP TREATMENTS
2010-2012 CFLRP TREATMENTS
Results
### Results

**Average Wildfire Size 2010-2011**

<table>
<thead>
<tr>
<th>Treated Areas</th>
<th>Untreated Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 acres</td>
<td>526 acres</td>
</tr>
</tbody>
</table>
Results
Results
Results
Results
Collaboration
Collaborative Efforts
Collaborative Efforts
Monitoring

TALL TIMBERS
Stewards of Wildlife & Wildlands
Collaborative Monitoring-Tall Timbers

- 40 Plots
- 196-acres
- Randomly Selected
Collaborative Monitoring-Tall Timbers
Collaborative Monitoring-Tall Timbers
Collaboration

Fire Planning

STARFire

Okefenokee/GOAL Preliminary Results & Briefing

May 2012
Collaboration

Fire Planning

STARFire

Providing Solutions For...

Fire Managers

STARFire supports critical elements of decision-making and implementing a fire program. It supports strategic and short-term fire management decisions and displays decision economics in ways that are easily understood and communicated. STARFire can be tailored to produce spatial images of program outcomes that focus on specific outcomes (including a land treatment plan) or broader fire management issues (including fire management plan alternatives).

Fire Planners

Fire planners can employ local goals and objectives through STARFire's decision process to assess the effectiveness of current management strategies, expand the scale to view and assess planning alternatives, and generate how much additional fire management, alternative progresses toward a desired fire management condition. Planning results may be visualized spatially and are quantified with critical metrics.

STARFire is an advanced and powerful spatial fire management planning and analysis system. It sets a new standard in visual and analytic support for fire management planning, decision, and communication. STARFire has been carefully constructed to generate a full suite of baseline outputs from the behavior data and valuation information founded on local knowledge and experience.

STARFire can assist Fire Managers and Planners by addressing a common set of questions:

- What are the expected benefits and risks of an unplanned fire on the landscape?
- What locations are good candidates for locating fuel treatments to meet hazard and ecosystem objectives?
- How do planned and unplanned ignitions affect the condition of the landscape, especially the departure from a desirable fire management condition?
- How can I quantify cumulative effects (across time and space) to fulfill environmental compliance requirements?
- Where is smoke likely to be an important consideration?
- If I have an igniton, which portions of the fire perimeter are likely to require protection and which are likely to produce ecosystem benefits? What are some likely risks and benefits of an ongoing event at its perimeter expands?

From a common set of inputs the full analysis suite can be generated...

Landscape Analysis

The landscape analysis is used to compare planning alternatives. A quantitative picture of a snapshot of the landscape relative to a desired fire management condition is taken for any planning or management scenario. By running simulations from different alternatives, planners can document and display the relative advantages. Snapshots can be compared to assess the efficacy of different alternative planning strategies. The landscape analysis can compare fuel treatments, suppression alternatives, or a combination of fire management strategies. It can also address how the desired fire management condition changes with time.

Unplanned Ignition Analysis

The unplanned ignition analysis shows where fire can benefit the ecosystem and where fire can be risky to property and other highly valued resources. The entire landscape is scanned to estimate potential benefits and risks from any ignition location. Each cell is assigned a color showing the benefits and risks of a simulated fire footprint. Risky ignition cells are shown in red and ignition cells that can benefit the ecosystem are shown in green. The darker colors indicate more intense impacts.

Fuel Treatment Analysis

The fuel treatment analysis scans the entire planning unit to suggest optimal locations for fuel treatment. STARFire considers the benefits of ecosystem improvement and reduced fuel induction. Using alternative planning scenarios to increase the number of acres treated, a prioritized view of fuel treatment locations can be generated. The locations suggested by STARFire provide a landscape perspective that can complement tactical implementation efforts.

Smoke Analysis

STARFire generates a smoke impact map that combines information on the potential of smoke to produce emissions and the estimated impact of emissions. The smoke analysis complements the unplanned ignition analysis by giving the managers and planners quick access to potential smoke impacts for any unplanned igniton. The smoke analysis also provides a strategic level view of areas on the landscape that are likely to generate important emission concerns.
Collaboration
Okefenokee/Osceola LLP Implementation Team
Collaboration
Okefenokee/Osceola LLP Implementation Team
Questions