

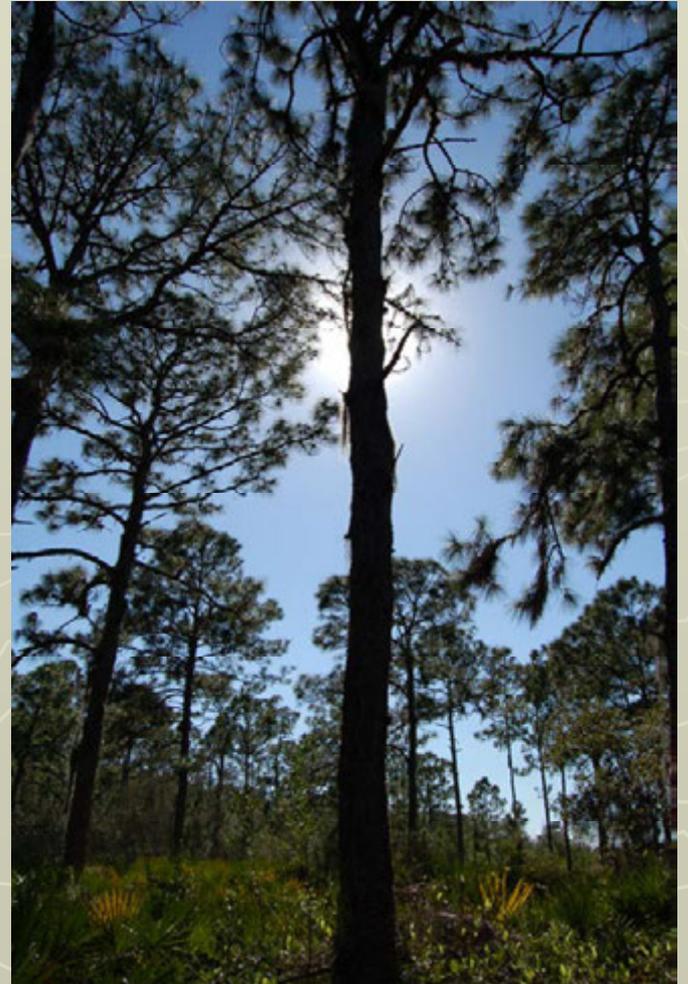
Ecological Timber Thinning



Charlotte County Environmental &
Extension Services
Natural Resources Division

What is timber thinning?

- ▶ **Timber thinning** is the process of cutting or removing a selection of trees from a stand to regulate the density, quality, and distribution of remaining trees.



Why are we timbering?

▶ Wildfire Mitigation

- To reduce the risk of catastrophic wildfire damaging surrounding homes
- To make prescribed burning more manageable and safe

▶ Habitat Restoration

- To increase the overall plant and wildlife diversity
- To make restoration activities, such as prescribed burning and mechanical reduction safer for the vegetation

Why are we timbering?

► Wildfire Mitigation

- Natural fires result from specific fuel conditions for each vegetation community. **Some communities accumulate fuels faster** while some decompose fuels more readily.
- Historically, fire would benefit the whole ecosystem, because their frequency and intensity was determined by the system's natural readiness to burn.
- **When fire has been excluded** from a vegetation community beyond its natural readiness to burn **the inevitable fire will be more severe.**
- Fed by unusually large amounts of fuel, a **fire's intensity will increase to dangerous levels**, causing major environmental, social and economic damages. The **loss of trees, wildlife habitat**, homes and even lives may result from a devastating wildfire.

Why are we timbering?

▶ Wildfire Mitigation

- ▶ According to the Division of Forestry's assessment of the Ecological and Economic Consequences of the 1998 Florida Wildfires
 - Due to excellent growing conditions, pine flatwoods can develop tremendous amounts of highly flammable undergrowth in only a few years, necessitating intervention to reduce hazardous fuels and prevent catastrophic wildfires.
 - In 1998 a fire model was used to determine potential fire behavior in pine flatwoods following a partial timber harvest, a prescribed fire, and an under story herbicide application to reduce fuels.
 - In all untreated flatwoods with a 10 year accumulation of undergrowth, predicted fire behavior was extreme, **making control operations very difficult and probably ineffective** and 100% mortality of over story pines.
 - Prescribed burning provides the best protection for the pines by reducing extreme fire behavior. Partial harvest impacted fire behavior in much the same manner and for a similar length of time as prescribed fire. Under story herbicides showed little immediate reduction in fire danger.
 - However, in urban interface areas a 10 year accumulation of fuels makes prescribed burning unsafe without combining additional treatments.

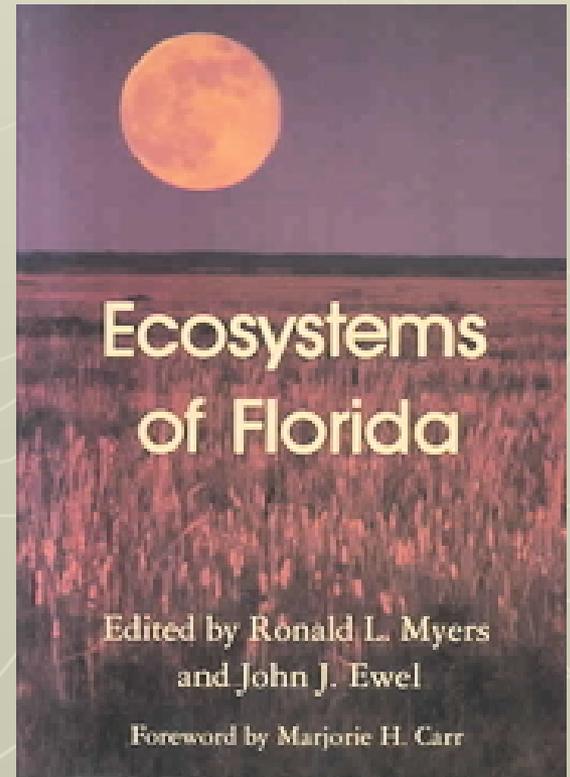
Why are we timbering?

▶ Habitat Restoration

- The loss of habitat diversity is apparent in the current monoculture conditions of the vegetation communities. The goal will be to re-establish vegetation communities with plant diversity and micro habitat diversity which have both been lost.
- In pine flatwoods, the removal of all trees would convert it into a savannah or prairie habitat, this is not the goal. **There will be no clear cutting**, the goal of this timber thinning is to **reduce stand density in a mosaic fashion** to promote the establishment of a naturally occurring under-story vegetative community.
- If a wildfire were to occur under the current conditions, with the extraordinary fuel load, the vegetation communities would burn more intensively. The fire would burn beyond the beneficial point and soils could become overheated and damage the root systems. Living tree crowns, as well as dead needles and branches, may be reduced to ashes.

Pine Flatwoods

- Ecosystems of Florida by Myers and Ewel describe historical **Pine flatwoods** (Chapter 5, page 104) as
 - ▶ "... the natural pine flatwoods as open enough to drive a wagon through easily..."
 - Referenced from Platt, W.J., Evans, G.W., and Rathburn, S.L. (1988a). The population dynamics of a long-lived conifer (*Pine palustris*). *Am. Nat.* 131, 491-525.



Pine Flatwoods



- The University of Florida's Florida Forest Stewardship Program defines **South Florida flatwoods** as
 - ▶ "typically savannas, a type of vegetation community **intermediate between grassland and forest**" that are characterized by:
 - ▶ an open over story of pines
 - ▶ an extensive shrub layer
 - ▶ and a variable and often sparse herbaceous layer

Cedar Point



Flight# 3D
Tile# 42

Cedar Point 1948
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George A. Smathers Libraries
State University System of Florida
Publication of Archival Library & Museum Materials



1948

2009

Timbering activities

- We **will be mapping out what trees** are to be thinned in order to avoid certain communities and restore or enhance the pine flatwoods community.
- **Within the pine flatwoods community** we will also be **looking for a mosaic** of tree density for a diversity of microhabitats, as well as aesthetics.
- We recognize that **it is important to keep older, larger trees** for seed production. At the same time, however, we do not want to get rid of all of our small trees and end up with a single size/age stand of trees; this would not be best for the health of the vegetation communities.
- We will be **concentrating our efforts on the smaller trees**, typically less than 18" in diameter. Thinning of larger trees will depend on the density in a given stand and to promote the health and growth of young saplings.
- Any trees that meet the "Heritage Tree" designation, according to the County's specific requirements of height, diameter, canopy, balance will be preserved.

Best Management Practices (BMP's)

Best Management Practices as outlined by the Florida Division of Forestry and the Timber Harvest Guidelines for The Charlotte County Pinelands Restoration

- ▶ Locate temporary roads/trails along the contour whenever practical to promote re-vegetation and reduce soil erosion.
- ▶ After felled tree transportation activities are complete, stabilize trails where necessary.
- ▶ When transporting materials on upland soils, movement of equipment should be dispersed so that soil compaction is minimal even in individual trails.
- ▶ In order to allow natural, unrestricted water flow and to protect the water's nutrient balance:
 - Logging slash, such as tops and limbs, which are incidental to timber harvesting activities may be left in place, as long as such material is not left in a water body.
 - Do not pile or push slash, rather remove logging slash from all water bodies including both intermittent and perennial streams, lakes and sinkholes.
- ▶ Adhere to the May 2007 National Bald Eagle Management Guidelines for all harvest operations at Cedar Point Environmental Park. **No harvest operations may be conducted in Cedar Point Environmental Park during the bald eagle breeding season.** Selective thinning of non-over story trees within 330 feet of a nest for habitat improvement may be conducted outside of the nesting season (Oct 1st thru May 15th).
- ▶ Harvesting activities within Oyster Creek Environmental Park will be prohibited during the period of time when local public schools are in session or unless allowed by the Forester-in-Charge.
- ▶ To minimize damage to the tree root systems and **protect the remaining stand**, strive to concentrate leave trees in clusters of three or four trees spaced less than twenty (20) feet apart. This will discourage mechanical treatment between leave trees. When choosing the location of clusters, favor tree groupings that will result in less dense saw palmetto and other highly volatile vegetation within the cluster.

What can you expect to see?



\$ During the timber thinning process

What can you expect to see?

Before



After



Babcock Ranch Preserve Timber Harvest 2008-2009 – Photo Point 1

What can you expect to see?

Before



After



Babcock Ranch Preserve Timber Harvest 2008-2009 – Photo Point 2

What can you expect to see?

Before



After



Babcock Ranch Preserve Timber Harvest 2008-2009 – Photo Point 4

What can you expect to see?

Before



After



Babcock Ranch Preserve Timber Harvest 2008-2009 – Photo Point 11

What can you expect to see?



Pre-timber



Post timber



1 year Post timber



2 year Post timber Rx burn

Sarasota County Timber Harvest

Benefits

- ▶ Ecological timber thinning will **open up the canopy**, allowing more sunlight to penetrate,



increasing resources available to other plants.



- ▶ The increase in diversity of the plants within the vegetation communities, will provide different types of seeds, berries and inflorescence that attract **a greater diversity of birds** and other wildlife species.

Cedar Point



Before

After