Forestry & Wetlands

So Many Questions…

Is forestry ("silviculture") allowed in wetlands?

{ yes }

Are permits required?

{ no, maybe }

Who regulates wetlands?

{ US EPA, Army Corps of Engineers, NC-DWR, NC-DCM }

What qualifies as a "wetland" ?

{ good question }

Why should you even care about all of this?

{ stay out of jail & off the radar… and it's the right thing to do }

The Rules: just the facts…

Federal -- Clean Water Act

A federal permit is required for any discharge of dredged or fill material (soil, debris) into a water or wetlands of the United States.

Within Section 404 of the Clean Water Act:

- **Normal, established, ongoing silviculture is exempt from having to obtain a permit.**
- **Timber Harvesting… Roads… Skid Trails… Site Prep… Minor Drainage Ditches.**

>> However << there are strings attached !

- ✓ **15 required BMPs for roads & skid trails in wetland; and forest road stream crossings.**
- ✓ **6 required BMPs for mechanical site prep to establish pine plantations in wetlands.**
- ✓ **The forestry work must not gradually or immediately convert the wetland to non-wetland.**
- ✓ **The forestry work must not result in a change-in-use of the land.**
- ✓ **Must also implement appropriate state forestry BMPs.**

Other Rules & Guidance

State of NC Wetland Protections

These 2 laws only apply in the 20 Coastal Zone counties:

- **North Carolina Dredge & Fill Law**
- **North Carolina Coastal Area Management Act (CAMA)**

Beaufort
Bertie
Brunswick
Camden
Carteret
Chowan
Craven
Currituck
Dare
Gates
Hertford
Hyde
New Hanover
Onslow
Pamlico
Pasquotank
Pender
Perquimans
Tyrrell
Washington

Ditch Maintenance Rule:

- **State Rule 15A NCAC 02B .0230.**
- **Excavated spoil must be placed atop old piles, with gaps provided.**
- **Must be placed within 20 feet of the ditch.**

Forest Roads in Wetlands Guidance:

- **2004 guidance document from NCFS & Corps of Engineers.**
- **Spells out acceptable road dimensions and additional BMPs.**

North Carolina's Wetland Protections

NC Dredge & Fill Law

Forestry related activities that create discharges of dredged or fill material in estuarine waters, tidelands, marshlands or state-owned lakes will require a permit from the N.C. Division of Coastal Management (DCM).

NC Coastal Area Management Act (CAMA)

- **CAMA restricts development in "Areas of Environmental Concern" (AEC), including road construction.**
- **However, no CAMA permit is needed for:**
  - ***Agriculture or forestry production that does not involve the excavation or filling of estuarine or navigable waters or coastal marshland.***
  - ***Agriculture or forestry ditches less than 6 feet wide and 4 feet deep.***

Bottomline: don't try building a logging road through a marsh!

These 2 laws apply only in the 20 Coastal Zone counties.

Timber Harvesting

Avoid Logging When Flooded.
Avoid Building New Roads. Use Wooden Road Pallet Mats.
Retain Permanent Seed-Trees for Regeneration (along flow-way / slough / run)?

Timber Harvesting

Photo credit: www.tigercat.com

Timber Harvesting

Leave a Generous SMZ:

- ***Account for Flooding.***
- ***Minimize Blow-Down (??)***
- ***Provide Long-Term Seed Source for Reforestation…***
  - ***Favor Cypress & Gum Seed Trees.***
  - ***Do Not Rely Only on Stump Sprouting.***

Timber Harvesting

Studies & Research:

Surveying re-growth on muck-swamp sites that were logged 5 to 10+ years ago.

Long-term soil & site effects from different logging and site prep methods (AL, SC).

Effects of drainage ditches on hydrology and water quality.

Comparing satellite analysis with ground-truth, to determine wetland forest extent.

Forest Roads

Avoid Constructing New Roads.
Comply with the 15 federally - mandatory "BMPs".
Follow guidance from the 2004 Information Document (Corps & NCFS).
FYI -- your "shovel skid trail" may still be legally considered a "road":

- ***Keep to the minimum width, length necessary.***
- ***Make sure to remove all logs from the skid trail ASAP when finished.***

Is this an acceptable (exempted) "forestry road" through a wetland?

Road built after logging
Too narrow for log trucks
Lack of cross-culverts
Road banks unstable, soil eroding
Roadbed height not minimized

Site Prep

Shearing, Raking, Piling…
Bedding…
Sub-Soiling, Disking…

<u>Aerial Pesticide Applications:</u>

- **State NPDES Permit, if meets certain thresholds.**

Comply with the 6 <u>federally</u> - <u>mandatory</u> "BMPs" for mechanical site prep to establish pine plantations in wetlands. Also, implement appropriate NC Forestry BMPs.

1. ***position blades at or near soil surface… minimize dragging or pushing logs through the soil…***
2. ***avoid excessive soil compaction and maintain soil tilth***
3. ***arrange windrows to limit erosion, overland flow and runoff***
4. ***prevent disposal of debris into SMZs***
5. ***maintain natural contours, must not convert the site to a non-wetland***
6. ***use appropriate water management mechanisms to minimize off-site water quality impacts***

Minor Drainage

Probably most challenging aspect to understand.

Must not immediately or gradually convert a wetland to a non-wetland…

Must not result in change-in-use…or impair or reduce the reach of a waters of the US

"In practice, minor drainage means the minimal and temporary drainage needed to harvest and successfully regenerate a forest tree stand."

--pg.110

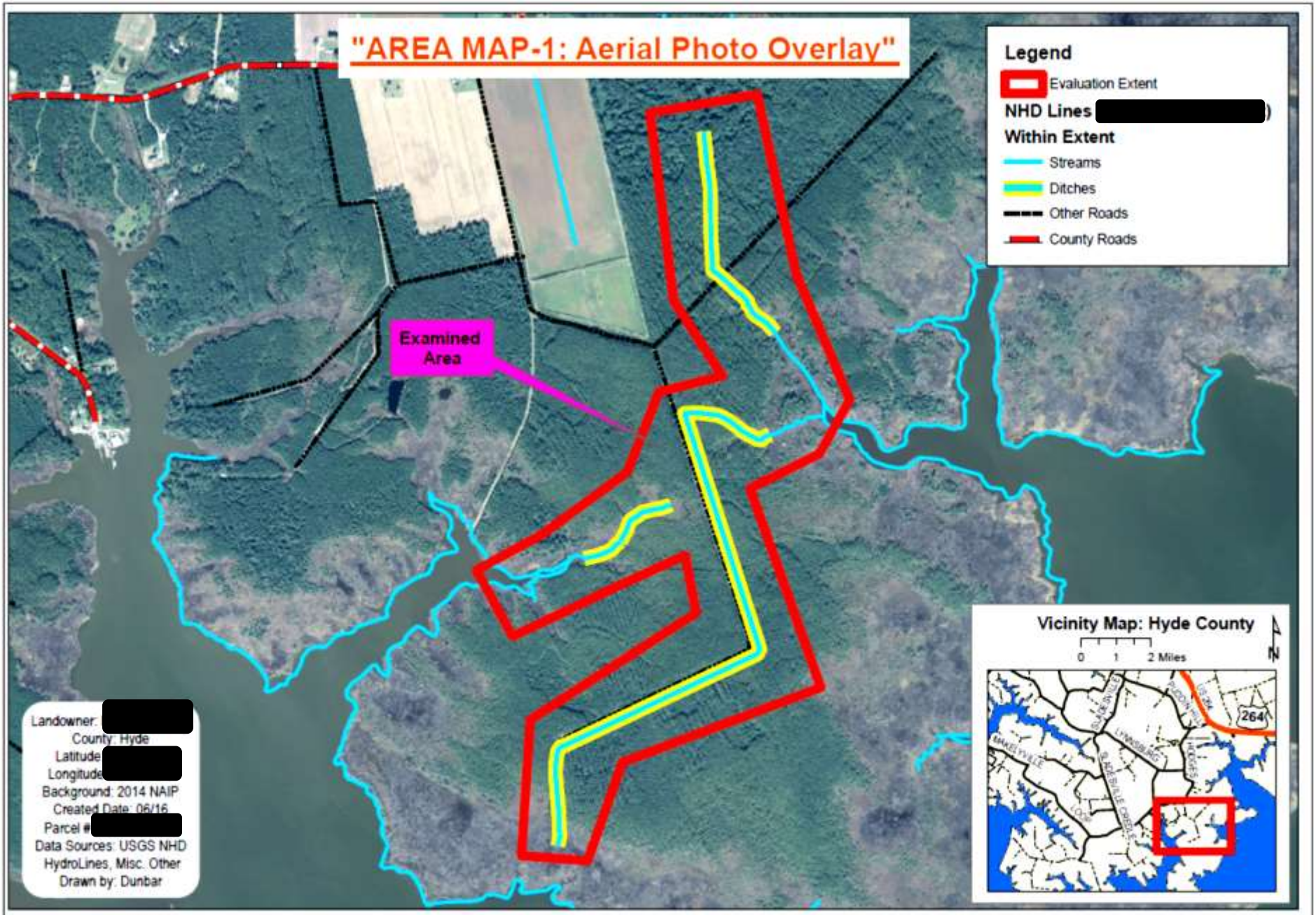
Wetlands & the N.C. Forest Service

Most of the agency's focus has been on what to do if questions arise about minor drainage activities.

If our agency personnel see forestry drainage work being done that appears to be questionable:

- **Typically bring-in NCFS staff specialists.**
- **Draft a letter and provide it to landowner.**
- **In our letter we advise the landowner to contact the appropriate Corps of Engineers Field Office.**

Let us help & advise you… before you start. For example >>>



0 0.125 0.25 Miles

Aerial Photo

NC Forest Service - Woodland Management Map

Acreages, Features and Boundaries are Approximations ONLY

Wildfires

Yes… swamps will burn.

Pocosins, Bays, and inter-stream flats with organic soil.

Once the organic soil is 'cured' by the heat from a surface wildfire… the organic soil will ignite.

Surface Vegetation = starter fluid (*flashy, hot, lots of flame*)

Organic Soil = charcoal (*smolder, slow-burn, long duration*)

May requires deep, parallel fireplow lines to stop the "ground fire" from burning-out underneath roads… powerlines… canal berms…

Also requires biblical quantities of water to saturate soil.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Other Wetland Issues

(?) Wetland " loss " attributed to forestry / silviculture

Just because timber is cut, does not equate a "loss".

(?) Utilization of timber from bottomland forested wetlands for industrial wood fuel pellets

Same resource -- just a different type of market product utilization.
U.S. Forest Service analysis shows no loss of the resource.

(?) Land use conversion / Land availability

Demand for ag products… Loss of uplands to 'higher & better use'.

(?) Trends in wetland forest vigor, growth, regen, fire regime

Sea level rise… Loss of Ash species… Impoundments… Fuel loading…

Reference…

www.treesearch.fs.fed.us/pubs/48894

Publ. 2015.

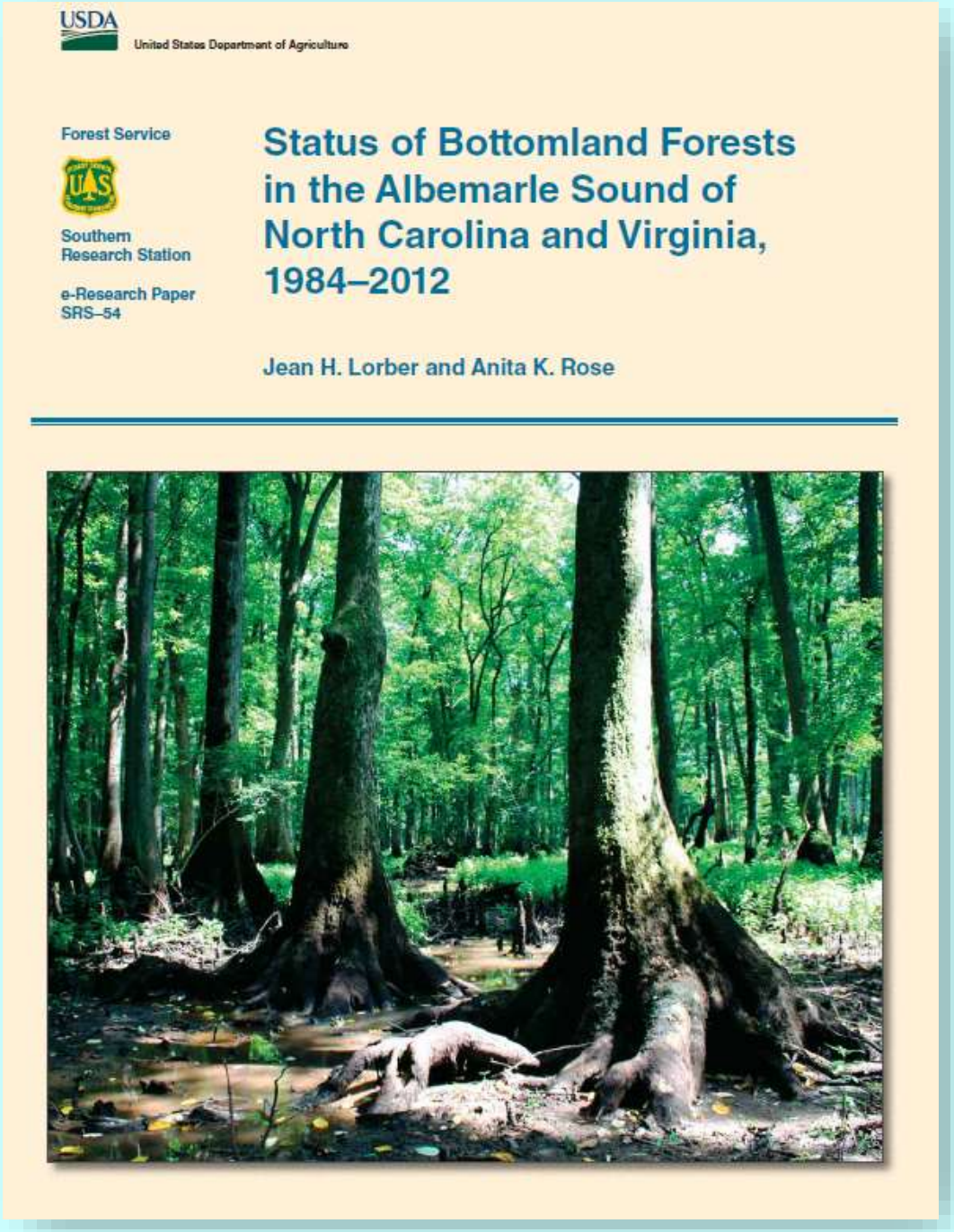
Summarizes trends in FIA data over ~30 years. Main Findings:

Half of the bottomland forest is less than 60 years old.

Younger forests had less cypress and tupelo,…more hardwood & pine.

Total acreage of bottomland forests has not changed over 30 year period.

Hurricanes/storms impacts on growth, survival, live volume may be just as influential as harvesting & land use.



Reference…

www.srs.fs.usda.gov/pubs/gtr/gtr_srs217.pdf

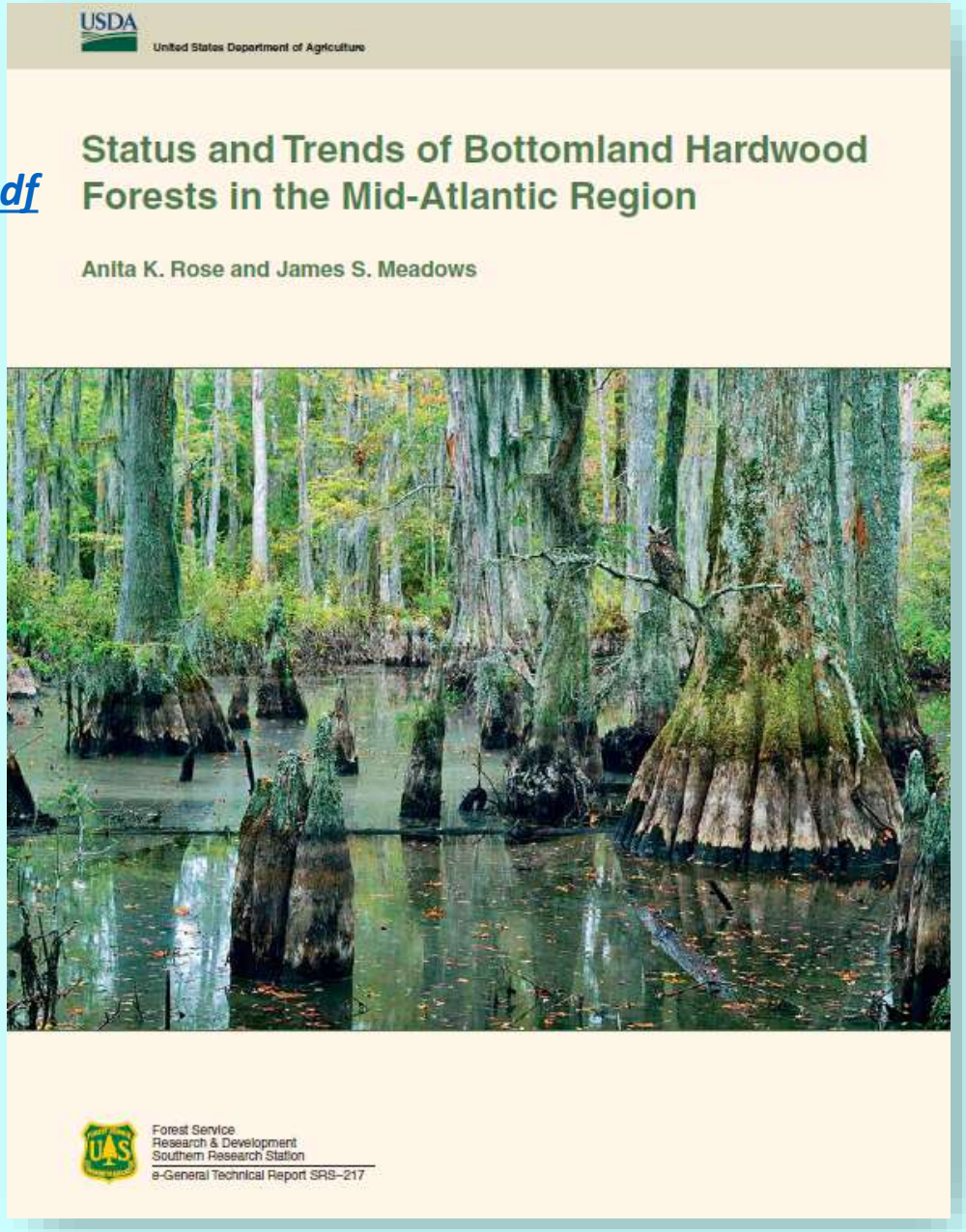
Publ. 2016.
Examines NC + VA,
coastal plain & eastern piedmont

Summarizes FIA Data Trends 2002-2014.
Main Findings:

Areas of large-diameter stands increased, indicating that these stands are aging.

Total volume of live trees remained steady.

Mortality was increasing up to the mid-2000s but now is decreasing.



Study, Learn, & Adapt.