



NC FOREST HEALTH

Where do we go from here?

*To protect, manage and promote forest
resources
for the citizens of North Carolina*



1

1



▣ Invasives

- Have increasingly become a focus
- Career Shifts
- Over the last 30 years
- Invasive species increasingly occupy our resources/time

*To protect, manage and promote forest
resources
for the citizens of North Carolina*



2

2



It's been going on for awhile



www.history.com/



<https://www.britannica.com/>

3



Narvaez Expedition 1527-1536




To protect, manage and promote forest resources for the citizens of North Carolina





4

4


NORTH CAROLINA
 DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

DeSoto Expedition: 1539-1543




 5

5


NORTH CAROLINA
 DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

A Partial List of Introductions

- 1600's: Scotch Pine
- 1620: Dandelion, Lambsquarter
- 1700's: Mullein, oxalis
- 1727: English Ivy
- 1736: Oriental Bittersweet
- 1745: Mimosa(1785 in south)
- 1784: Tree of Heaven
- 1814: Sowthistle
- 1876: Kudzu
- 1877: Japanese Knotweed
- 1886: Multiflora Rose
- 1891: 1st known use of the term invasive species
- Continues

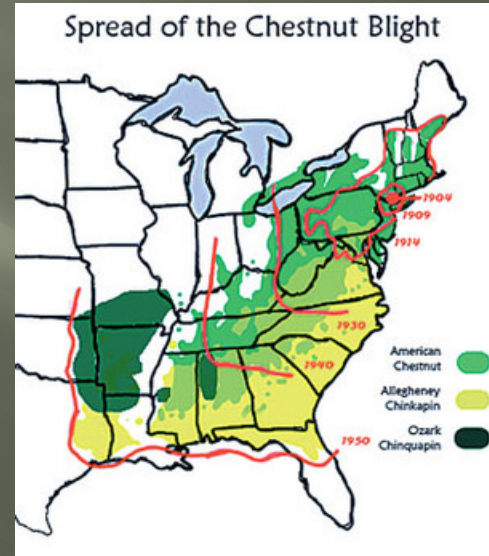
*To protect, manage and promote forest resources
for the citizens of North Carolina*


 6

6

Chestnut Blight/Phytophthora

- *Cryphonectria parasitica* (1904)
- *Phytophthora cinnamomi* (1700's)



7

Chestnut Blight/Phytophthora

- ▣ Guilford, Surry, Stokes first counties
- ▣ 1913
- ▣ By 1940 generally infested



8



9

Dutch Elm Disease

- ▣ Introduced
 - 1930
 - A vascular disease
 - 1962: Located in Greensboro




10

Dutch Elm Disease

- ▣ Vectored
 - Native Elm Bark Beetle
 - Smaller European Elm Bark Beetles
 - Loss of high value landscape trees
 - Elm is not eradicated (is it less common in the south?)




11




NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

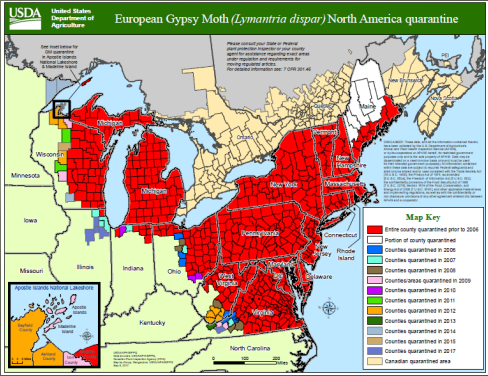
Spongy moth (*Lymantria dispar*)



UGA1507048




5558987



USDA United States Department of Agriculture
European Gypsy Moth (*Lymantria dispar*) North America quarantine

*To protect, manage and promote forest resources
for the citizens of North Carolina*



12

Spongy Moth

- ▣ Spongy Moth (*Lymantria dispar*)
- ▣ Introduced 1868, Current NC distribution since 1982
 - Slow The Spread is still holding
 - NCFS cooperates with NCDA Plant Industry
 - FY 22
 - ▣ 17,248 traps
 - ▣ 826 positive
 - ▣ 1433 moths
 - ▣ 11 treatment blocks
 - ▣ All are mating disruptor: SPLAT GM-O
 - ▣ 16,909 acres treated

13

Spongy Moth Slow the Spread

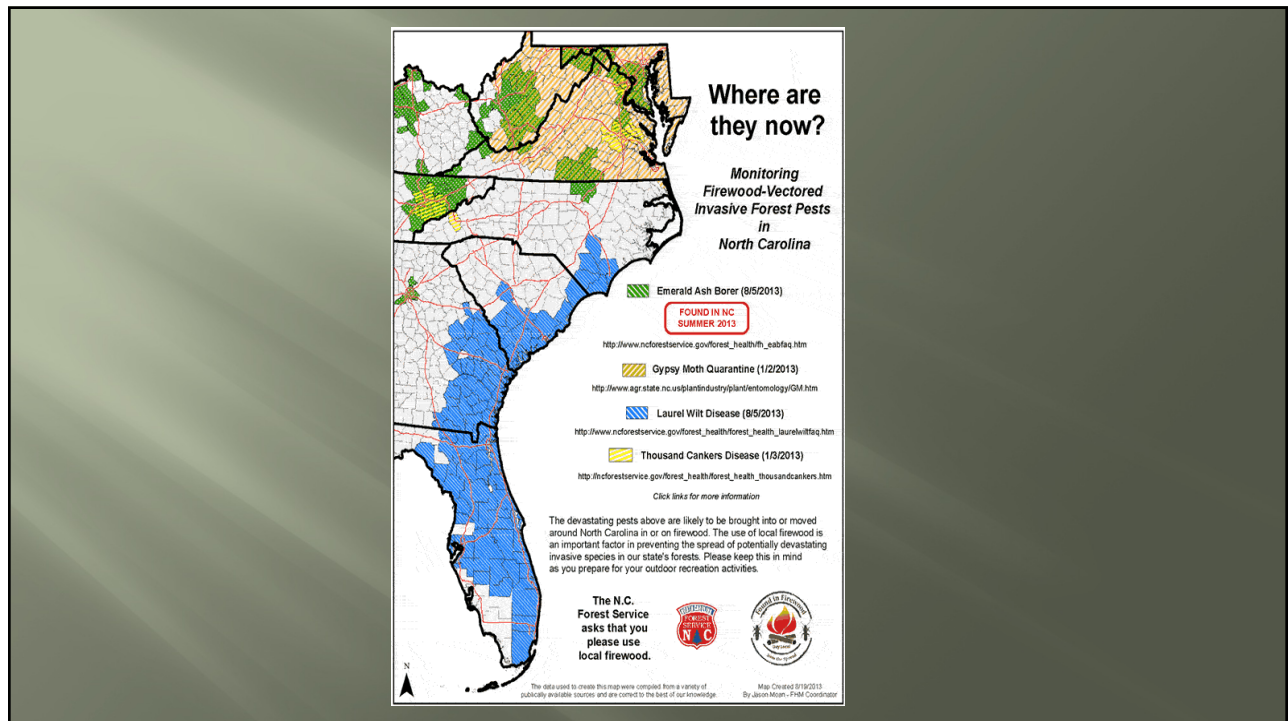


14

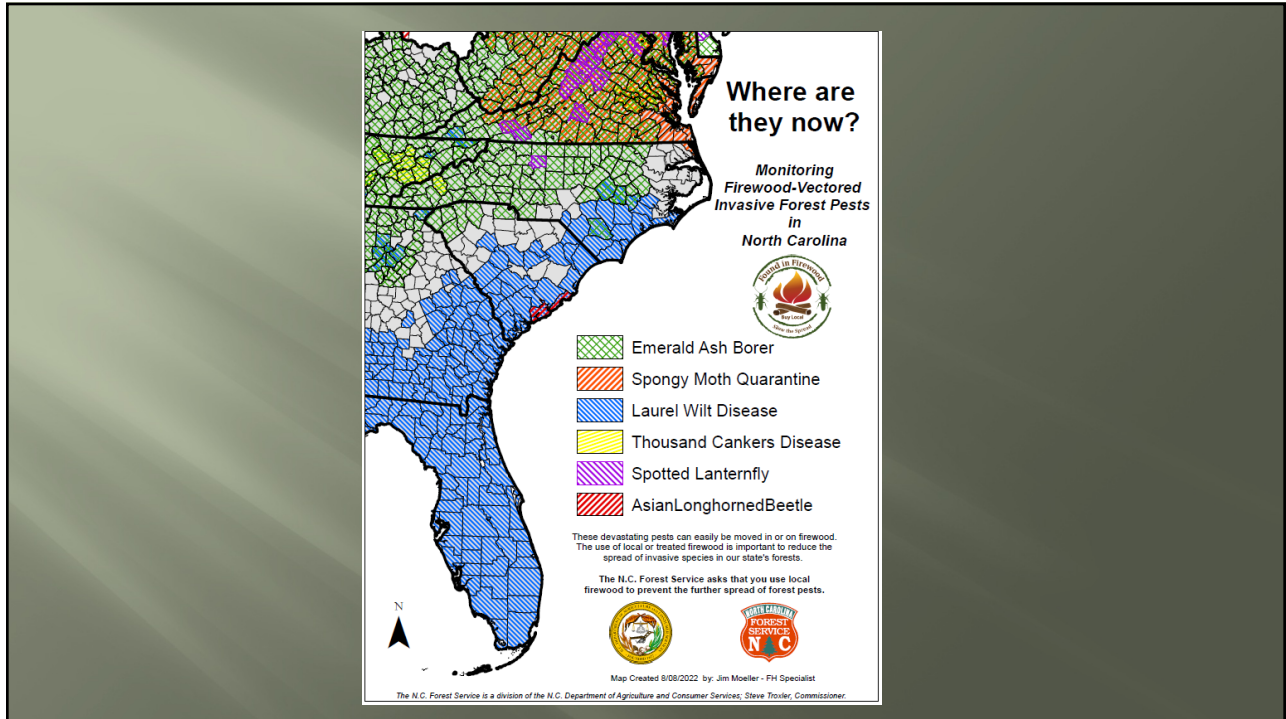
Spongy Moth Treatments



15



16



17



18

Invasives

- ▣ Asian Longhorned Beetle (NOT HERE, YET!)
 - Charleston, SC
 - Has probably been there 7 years or so
 - In process of treating
 - This is different:
 - ▣ Not an urban situation
 - ▣ In the swamps of SC
 - ▣ A harder removal
 - ▣ Where are we on this?



19

NORTH CAROLINA
 DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Asian Longhorned Beetle



An adult Asian longhorned beetle. Note the alternating bands of black and white on the antennae. (Photo by Melody Keena, USDA Forest Service, Bugwood.org)



5476349

To protect, manage and promote forest resources
for the citizens of North Carolina



20

20

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Asian Longhorned Beetle



5476352 5476351

*To protect, manage and promote forest resources
for the citizens of North Carolina*



21

21

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Asian Longhorned Beetle



UGA1393011 5476350 UGA5016097

*To protect, manage and promote forest resources
for the citizens of North Carolina*



22

22



NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Invasive Plants

*To protect, manage and promote forest resources
for the citizens of North Carolina*



23

23




NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Invasive Plants

- ▣ A huge issue
 - Trees
 - Shrubs
 - Vines
 - Herbs/Grasses

*To protect, manage and promote forest resources
for the citizens of North Carolina*



24

24

Invasive Plants (An incomplete list)

- ▣ Tree of Heaven
- ▣ Mimosa
- ▣ Callery Pear
- ▣ Tallow Tree
- ▣ Autumn Olive
- ▣ Bicolor Lespedeza
- ▣ Multiflora Rose
- ▣ Porcelain Berry
- ▣ Oriental Bittersweet
- ▣ English Ivy
- ▣ Cypressvine Morningglory
- ▣ Japanese Honeysuckle
- ▣ Kudzu
- ▣ Japanese/Chinese Wisteria
- ▣ Garlic Mustard
- ▣ Sericea lespedeza
- ▣ Stiltgrass
- ▣ Silvergrass
- ▣ Knotweed
- ▣ Bamboo

25


NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Cogongrass

- ▣ *Imperata cylindrica*
- ▣ Native to southeast asia
- ▣ Extremely competitive
- ▣ Ecological problems
- ▣ Fire concerns



UGA1299003
Charles T. Bryson, USDA Agricultural Research Service, Bugwood.org

To protect, manage and promote forest resources
for the citizens of North Carolina



26

26

NORTH CAROLINA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES

Cogongrass Locations
1/9/18 North Carolina

Legend

- Feature 1
- Feature 2
- Feature 3

To protect, manage and promote forest resources for the citizens of North Carolina

27

27

Questions

Where are they now?

Monitoring Firewood-Vectored Invasive Forest Pests in North Carolina

- Emerald Ash Borer (8/5/2013)
FOUND IN NC SUMMER 2013
http://www.ncforestservice.gov/forest_health/ea_bf14q.htm
- Gypsy Moth Quarantine (1/2/2013)
<http://www.agr.state.nc.us/plantindustry/plant/entomology/GM.htm>
- Laurel Wilt Disease (8/5/2013)
http://www.ncforestservice.gov/forest_health/forest_health_laurelwilt.htm
- Thousand Cankers Disease (10/2013)
http://www.ncforestservice.gov/forest_health/forest_health_thousandcankers.htm

Click links for more information

The devastating pests above are likely to be brought into or moved around North Carolina in or on firewood. The use of local firewood is an important factor in preventing the spread of potentially devastating invasive species in our state's forests. Please keep this in mind as you prepare for your outdoor recreation activities.

The N.C. Forest Service asks that you please use local firewood.

The data used to create this map were compiled from a variety of publicly available sources and are subject to the best of our knowledge.

Map Created 9/20/13 by Jason Hester - Field Coordinator

Where are they now?

Monitoring Firewood-Vectored Invasive Forest Pests in North Carolina

- Emerald Ash Borer
- Spongy Moth Quarantine
- Laurel Wilt Disease
- Thousand Cankers Disease
- Spotted Lanternfly
- Asian Longhorned Beetle

These devastating pests can easily be moved in or on firewood. The use of local or treated firewood is important to reduce the spread of invasive species in our state's forests.

The N.C. Forest Service asks that you use local firewood to prevent the further spread of forest pests.

Map Created 8/08/2022 by: Jim Mueller - FH Specialist

The N.C. Forest Service is a division of the N.C. Department of Agriculture and Consumer Services. Steve Touker, Commissioner

28