

Forest Health Monitoring Southern Regional Program



Fact Sheet Series



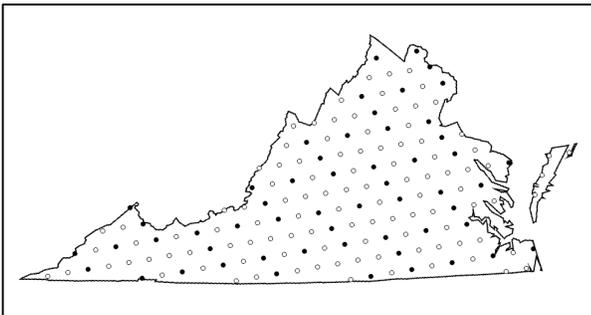
Virginia (1998)



Sampled Forest Conditions

Virginia has more than 16 million acres of forest land and more than 87% of the timberland acreage is in private ownership. These forests are important to the citizens because they provide clean water, wildlife habitat, and are sources recreation, timber, and fuel.

Forest Health Monitoring Sites, 1998



Sampled Year	Number of Sites	Land Use	%
● 1998	55	Forested	59
○ Previous	105	Non-forested	41

Virginia has participated in the FHM Program since 1991. Although there are total of 160 plots in Virginia, only 55 are measured in any year. The distribution of plots by various forest stand descriptors is listed below.

How Forest Stands are Distributed

Forest Type Groups	%	Origin	%
Loblolly-Shortleaf Pine	17	Natural	88
All Softwood Types	17	Planted	12
Oak-Pine Types	12		
Oak-Hickory	61	Age (years)	%
Oak-Gum-Cypress	1	0-20	20
Other Hardwoods	9	21-40	19
All Hardwood Types	71	41-60	14
		60+	47

The Oak-Hickory forest type group accounts for 61% of the forest types and forest type groups with an oak component account for almost three-quarters of the state (74%). Over one-quarter of the stands in Virginia have a stand age of greater than 60 years.

How Trees Rank in Abundance

Tree Species	Seedlings	Saplings	Live Trees	Dead Trees	Cut Trees
	----- rank -----				
Eastern White Pine	*	8	9	3	*
Loblolly Pine	7	3	4	9	*
Redcedars	*	*	*	*	9
Virginia Pine	*	*	7	5	1
American Holly	8	9	*	*	*
Birches	*	10	*	*	*
Black Cherry	*	*	*	6	*
Black Locust	*	*	10	4	*
Blackgum	10	6	*	*	10
Flowering Dogwood	5	*	*	*	*
Hickories	4	5	6	*	6
Oaks, Red	2	4	2	2	5
Oaks, White	3	2	1	1	4
Red Maple	1	1	5	10	3
Sourwood	*	*	*	*	8
Sweetgum	9	7	8	8	2
Yellow-poplar	6	*	3	7	7

* Not among the top ten species.

As expected due the distribution of oak forest type groups, the red and white oaks ranked high in abundance for all categories of trees. Red maple also ranks high in most abundance categories generally due to its high shade tolerance and absence of any major insects or disease pests. Red maple also ranked third in cut trees, so it is being used as a timber species in some manner. Black locust ranked high in abundance of dead trees (4), because black locust is a short-lived, pioneer species generally invading abandoned farm lands and disturbed sites which there is a reduced amount in Virginia in the 1990's. Although forest type groups with a pine component only accounted for 29% of the forested stands in Virginia, loblolly pine ranked number four and eastern white pine and Virginia pine were in the top ten of live trees with a diameter ≥ 5.0 inches.

Crown Conditions of Living Trees

Selected Tree Species *	Crown Dieback	Crown Density	Foliage Transparency
<i>percent of trees in poor condition</i>			
Eastern White Pine	2.8	8.3	25.0
Loblolly Pine	0.0	2.5	10.5
Virginia Pine	2.1	4.3	36.2
Black Locust	0.0	0.0	50.0
Hickories	1.4	1.4	6.8
Oaks, Red	3.3	0.6	6.6
Oaks, White	1.9	2.8	5.4
Red Maple	1.8	0.6	5.4
Sweetgum	1.5	3.1	3.1
Yellow-poplar	1.5	0.0	4.4

* Species among the top ten in abundance of live trees.

Both the red and white oak group ranked high in the proportion of trees in the poor crown dieback. This may be partially as a result of gypsy moth defoliation in the early 1990's, which stressed the trees and is manifested in crown dieback. One-half of the black locusts were in the poor foliage transparency classes. Foliage transparency is a measure of defoliation and this condition is most likely due to the presence of locust leaf miner. Red maple and yellow-poplar generally had the overall best crown conditions.

Frequency of Damage on Living Trees

Selected Tree Species *	Trees with any Damage	Most Frequently Observed Damage	
	<i>percent</i>	<i>type</i>	<i>percent</i>
Eastern White Pine	16.7	Loss of terminal	8.3
Loblolly Pine	4.6	Vines in crown	3.8
Virginia Pine	6.4	Decay	2.1
Black Locust	44.4	Decay	27.8
Hickories	16.2	Decay	5.4
Oaks, Red	16.5	Decay	8.2
Oaks, White	16.1	Decay	7.9
Red Maple	16.9	Decay	8.4
Sweetgum	16.9	Open wounds	4.6
Yellow-poplar	18.1	Decay	9.4

* Species among the top ten in abundance of live trees.

Generally, less than 20% of all tree species in Virginia had any recordable damage, except black locust with nearly half. The damage proportion closely mirrors that of foliage transparency, which research has shown to be

expected. Loblolly pine was the least damaged tree in Virginia followed closely by Virginia pine.

Forest Influences

Insect Pests and Diseases

No state in the South suffered more from the 1998 drought than Virginia (see the high incidence of poor crown conditions in table at left). Aside from widespread outright mortality (especially in the mountains where shallow-rooted species on rocky sites were hardest hit), the drought exacerbated a whole host of pre-existing conditions throughout the Virginia's diverse forest types. Oak decline was very evident among dominant and codominant trees in the south and west. Black turpentine beetle, pine engraver beetles, and Nantucket pine tip moth attacked pines stressed by the drought from Maryland to Tennessee. Southern pine beetle appeared in twenty counties, but none were declared epidemic.

No gypsy moth defoliation was reported in 1998, but fall cankerworm defoliated trees along the Appalachian Trail in Amherst County. Forty-six counties are confirmed infected with dogwood anthracnose, forty-four with hemlock woolly adelgid, one with beech bark disease, and thirteen with butternut canker. Balsam woolly adelgid continues to kill fraser fir on Virginia's highest mountain peaks. Some 59,300 acres are infected with fusiform rust, and littleleaf disease continues to cause pine mortality and predisposition to other stressors in the Piedmont.

Additional Information

For more information on forest conditions in Virginia or Forest Health Monitoring, please contact:

State Forester
Virginia Department of Forestry
900 Natural Resources Drive
PO Box 3758
Charlottesville, VA 22903-0758
(804) 977-6555
<http://state.vipnet.org/dof/>

Bill Burkman, Program Manager
Southern Forest Health Monitoring Program
USDA Forest Service
PO Box 2680
Asheville, NC 28802
(828) 259-0522
bburkman/srs_fia@fs.fed.us