

## **44<sup>th</sup> SOUTHERN FOREST INSECT WORK CONFERENCE**

### **Report on Losses Caused by Forest Insects**

**July 31 – August 3, 2000**

**Memphis, Tennessee**

To: Members of the Southern Forest Insect Work Conference

The attached report contains figures and statistics on losses caused by forest insects during calendar year 1999. The data in this report were submitted by 11 southern states, the USDA Forest Service Region 8, and the Western Gulf Forest Tree Improvement Program. With the exception of calendar year 1997, similar information has been obtained from these sources for the past 28 years. The supplied information is compiled into a report which is disseminated at the annual Southern Forest Insect Work Conference.

The report has five sections, each dealing with a different damage class. The damage classes are: A – Mortality, B – Growth Reduction, C – Seed and Cone, D – Miscellaneous, and E – Oak Defect and Degrade. When possible, loss figures are separated to distinguish federal from state or private ownership.

No attempt has been made to adjust figures to account for unreported losses. None of the figures in this report should be considered as complete for any insect for calendar year 1999. This report simply estimates damage classes and levels for a variety of significant forest-tree pests during 1999.

At the SFIWC in Pensacola last year, it was decided that this report should list state-by-state data to make the report more specific. Hence, in this year's report, damage classes A, B, and D each have two tables: one listing the state-by-state data and one listing the compiled data from all states for a particular insect (this second table is very similar to the tables in past reports). Also included in the second table are last year's report results. This new addition to the report lets us see how much a particular insect's damage has increased or decreased from CY 1998 to CY 1999.

Continuing a change that was instituted last year, a breakdown of the reporting frequency for the various estimation methods can be found in Appendix I.

Questions and/or comments concerning the report should be directed to Don Duerr, Forest Health Protection, USDA Forest Service. Don can be reached by telephone at (318) 473-7283 or by e-mail at: [dduerr@fs.fed.us](mailto:dduerr@fs.fed.us).

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class A – Mortality** (sorted by state and/or reporting organization)

State/ Org.	Insect*	Ownership*	Documented Damage			Estimated Damage			TOTAL DAMAGE		
			MBF	Cords	Value	MBF	Cords	Value	MBF	Cords	Value
AL	SPB	S&P	7,661	65,423	4,213,790	12,050	103,068	6,707,250	19,711	168,491	10,921,040
FL	SPB	S&P				5,580	3,780	1,492,425	5,580	3,780	1,492,425
FL	BTB	S&P				18,860		6,129,500	18,860		6,129,500
FL	IPS	S&P				9,430	25,555	3,959,175	9,430	25,555	3,959,175
GA	SPB	S&P		1,824	56,544	3,148	6,676	1,415,788	3,148	8,500	1,472,332
GA	IPS	S&P	840	1,321	363,511	4,610	5,314	1,934,974	5,450	6,635	2,298,485
LA	BTB	S&P				300		112,500	300		112,500
LA	IPS	S&P				1,200	2,500	1,125,000	1,200	2,500	1,125,000
MS	SPB	S&P	9	2,666	214,160				9	2,666	214,160
NC	SPB	S&P	15,724	19,235	3,946,644	11,793	14,426	2,959,983	27,517	33,661	6,906,627
NC	BTB	S&P	23		4,600	69		13,800	92		18,400
NC	IPS	S&P	420		84,000	1,260		252,000	1,680		336,000
NC	LB	S&P				1,000		150,000	1,000		150,000
NC	PW	S&P					(Seedlings)	10,231		(Seedlings)	10,231
OK	IPS	S&P				3,800		1,330,000	3,800		1,330,000
SC	SPB	S&P	23,421	33,280	9,546,234				23,421	33,280	9,546,234
TN	SPB	S&P				13,868	13,557	3,135,963	13,868	13,557	3,135,963
TN	BTB	S&P		1	14					1	14
TN	IPS	S&P				72	2,308	78,009	72	2,308	78,009
TX	BTB	S&P				2,570	1,917	1,024,525	2,570	1,917	1,024,525
TX	IPS	S&P				8,366	18,700	3,646,580	8,366	18,700	3,646,580
VA	SPB	S&P				100	200	19,000	100	200	19,000
VA	BTB	S&P				200	100	32,000	200	100	32,000
VA	IPS	S&P	1,018	800	168,000	200	400	38,000	1,218	1,200	206,000
VA	HWA	S&P				500	300	48,000	500	300	48,000
USFS	SPB	Fed.	2,965		830,200	1,482		415,100	4,447		1,245,300
USFS	HWA	Fed.				400	400	50,000	400	400	50,000
USFS	BWA	Fed.					100,000	600,000		100,000	600,000
<b>TOTAL</b>			<b>52,081</b>	<b>124,549</b>	<b>19,427,697</b>	<b>100,858</b>	<b>299,201</b>	<b>35,554,803</b>	<b>152,939</b>	<b>423,750</b>	<b>54,982,500</b>

**\*Abbreviations:**

SPB = Southern Pine Beetle  
 BTB = Black Turpentine Beetle  
 IPS = Ips Beetles

HWA = Hemlock Woolly Adelgid  
 BWA = Balsam Woolly Adelgid

LB = Locust Borer  
 PW = Pales Weevil

S&P = State and Private Ownership  
 Fed. = Federal Ownership

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class A – Mortality** (sorted by Insect and Ownership and compared to CY 1998)

Insect*	Ownership*	CY 1999 TOTAL DAMAGE			CY 1998 TOTAL DAMAGE		
		MBF	Cords	Value	MBF	Cords	Value
SPB	S&P	93,354	264,135	33,707,781	33,960	136,131	13,843,404
SPB	Fed.	4,447	-----	1,245,300	4,195	-----	1,678,000
BTB	S&P	22,022	2,018	7,316,939	1,466	728	506,774
IPS	S&P	31,216	56,898	12,979,249	22,352	88,209	10,256,623
MBB	S&P	-----	-----	-----	5,565	11,842	2,645,200
LB	S&P	1,000	-----	150,000	-----	1,000	30,000
BWA	Fed.	-----	100,000	600,000	-----	100,000	600,000
PW	S&P	-----	-----	10,231	-----	-----	34,709
HWA	S&P	500	300	48,000	900	500	90,000
HWA	Fed.	400	400	50,000	200	200	25,000
<b>TOTAL</b>		<b>152,939</b>	<b>423,750</b>	<b>\$54,982,500</b>	<b>68,638</b>	<b>338,610</b>	<b>\$29,709,080</b>

**\*Abbreviations:**

SPB = Southern Pine Beetle

BTB = Black Turpentine Beetle

IPS = *Ips* Beetles

MBB = Mixed Bark Beetles

LB = Locust Borer

BWA = Balsam Woolly Agelgid

PW = Pales Weevil

HWA = Hemlock Woolly Adelgid

Fed. = Federal Ownership

S&P = State and Private Ownership

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class B – Growth Reduction** (sorted by state and/or reporting organization)

State/ Org.	Insect*	Ownership*	TOTAL ESTIMATED DAMAGE		
			MBF	Cords	Value
FL	NPTM	S&P	-----	10,474	366,590
FL	RHPS	S&P	-----	500	17,500
LA	FTC	S&P	-----	39,500	592,500
LA	FTL	S&P	14,000	-----	3,416,000
LA	APS	S&P	-----	10,000	220,000
NC	ETC	S&P	-----	300	2,400
NC	FC	S&P	320	-----	41,280
NC	FTC	S&P	5,200	-----	624,000
NC	GM	S&P	9	-----	1,080
NC	NPTM	S&P	-----	1,500	33,000
NC	VPS	S&P	-----	750	16,500
OK	GH	S&P	150	1,350	110,000
TN	LL	S&P	3,093	-----	479,415
TN	JOG	S&P	33,176	-----	864,068
TX	TM	S&P	-----	6,875	171,875
TX	BHPS	S&P	-----	5,000	125,000
VA	FC	S&P	-----	1,000	20,000
VA	LPS	S&P	-----	100	2,000
<b>TOTAL</b>			<b>55,948</b>	<b>77,349</b>	<b>\$7,103,208</b>

**\*Abbreviations**

- NPTM = Nantucket Pine Tip Moth
- RHPS = Red-Headed Pine Sawfly
- FTC = Forest Tent Caterpillar
- FTL = Fruittree Leafroller
- APS = Arkansas Pine Sawfly
- ETC = Eastern Tent Caterpillar
- FC = Fall Cankerworm
- GM = Gypsy Moth
- VPS = Virginia Pine Sawfly
- GH = Grasshopper
- LL = Locust Leafminer
- JOG = Jumping Oak Gall
- TM = Tip Moth
- BHPS = Black-Headed Pine Sawfly
- LPS = Loblolly Pine Sawfly
  
- S&P = State & Private Ownership

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class B – Growth Reduction** (sorted by Insect and Ownership and compared to CY 1998)

Insect*	Ownership*	CY 1999 TOTAL DAMAGE			CY 1998 TOTAL DAMAGE		
		MBF	Cords	Value	MBF	Cords	Value
NPTM	S&P	-----	11,974	399,590	-----	10,923	584,565
RHPS	S&P	-----	500	17,500	-----	-----	-----
FTC	S&P	5,200	39,500	1,216,500	767	42,000	944,040
FTL	S&P	14,000	-----	3,416,000	7,600	-----	1,869,600
APS	S&P	-----	10,000	220,000	-----	-----	-----
ETC	S&P	-----	300	2,400	200	-----	24,000
FC	S&P	320	-----	41,280	780	1,000	120,620
GM	S&P	9	-----	1,080	-----	-----	-----
VPS	S&P	-----	750	16,500	100	-----	10,000
GH	S&P	150	1,350	110,000	150	1,350	110,000
LL	S&P	3,093	-----	479,415	-----	-----	-----
JOG	S&P	33,176	-----	864,068	-----	-----	-----
TM	S&P	-----	6,875	171,875	-----	5,500	187,000
BHPS	S&P	-----	5,000	125,000	-----	-----	-----
LPS	S&P	-----	100	2,000	-----	-----	-----
BW	S&P	-----	-----	-----	-----	1,000	6,000
CL	S&P	-----	-----	-----	920	-----	276,000
CLB	S&P	-----	-----	-----	1,840	-----	520,000
FW	S&P	-----	-----	-----	200	-----	24,000
WPW	S&P	-----	-----	-----	2	-----	5,458
YPW	S&P	-----	-----	-----	500	-----	1,000
<b>TOTAL</b>		<b>55,948</b>	<b>77,349</b>	<b>\$7,103,208</b>	<b>13,159</b>	<b>60,773</b>	<b>\$4,702,283</b>

**\*Abbreviations:**

NPTM = Nantucket Pine Tip Moth  
RHPS = Red-Headed Pine Sawfly  
FTC = Forest Tent Caterpillar  
FTL = Fruittree Leafroller  
APS = Arkansas Pine Sawfly

ETC = Eastern Tent Caterpillar  
FC = Fall Cankerworm  
GM = Gypsy Moth  
VPS = Virginia Pine Sawfly  
GH = Grasshopper  
LL = Locust Leafminer

JOG = Jumping Oak Gall  
TM = Tip Moth  
BHPS = Black-Headed Pine Sawfly  
LPS = Loblolly Pine Sawfly  
BW = Bagworm  
CL = Cypress Looper

CLB = Cypress Leaf Beetle  
FW = Fall Webworm  
WPW = White Pine Weevil  
YPW = Yellow Poplar Weevil  
S&P = State & Private Ownership

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class C – Seed and Cone** (sorted by Insect and Ownership and compared to CY 1998)

Insect	Ownership	Documented Damage		Estimated Damage		CY 1999 Total Damage		CY 1998 Total Damage	
		Lbs. Of Seed	Value	Lbs. Of Seed	Value	Lbs. Of Seed	Value	Lbs. Of Seed	Value
Seedbugs	S&P	4,484	1,793,600	211	10,550	4,695	1,804,150	9,230	3,472,690
Seedbugs	Fed.			4,000	1,000,000	4,000	1,000,000	3,800	1,140,000
Coneworms	S&P	6,089	2,435,600	500	25,000	6,589	2,460,600	3,762	1,130,400
Coneworms	Fed.			5,500	1,500,000	5,500	1,500,000	5,700	1,710,000
Cone beetle	S&P					-----	-----	200	6,500
Cone beetle	Fed.			500	125,000	500	125,000	-----	-----
SCGM*	S&P			65	4,580	65	4,580	-----	-----
Acorn weevil	S&P	3,100	31,000			3,100	31,000	-----	-----
Other AI**	S&P					-----	-----	22,771	67,710
<b>TOTAL</b>		<b>13,673</b>	<b>4,260,200</b>	<b>10,776</b>	<b>2,665,130</b>	<b>24,449</b>	<b>6,925,330</b>	<b>45,463</b>	<b>7,527,300</b>

\* SCGM = Southern Cone Gall Midge

\*\* Other AI = Other Acorn Insects

## Survey of Damage Caused by Forest Insects in the Southeast, CY 1999

### Damage Class D – Miscellaneous (sorted by state and/or reporting organization)

State	Insect*	Ownership*	Documented Damage			Estimated Damage			TOTAL DAMAGE		
			# of Trees	# of Acres	Value	# of Trees	# of Acres	Value	# of Trees	# of Acres	Value
FL	VOLC	S&P				638,104	21,270	-----	638,104	21,270	-----
FL	WG	S&P				2,085,600	3	75,096	2,085,600	3	75,096
MS	IPS	S&P				850		-----	850		-----
MS	PW	S&P				100,000	20	-----	100,000	20	-----
NC	BW	S&P	1,000		10,000				1,000		10,000
SC	PW	S&P	56,000	80	2,500				56,000	80	2,500
TN	LPS	S&P				209		68	209		68
TN	VPS	S&P				50		150	50		150
TX	PW	S&P				630,000		28,350	630,000		28,350
TX	TA	S&P				720,000	1,200	114,000	720,000	1,200	114,000
VA	BTB	S&P				300		1,500	300		1,500
VA	IPS	S&P				500		5,000	500		5,000
VA	OB	S&P				50,000		4,500,000	50,000		4,500,000
VA	BWA	S&P				1,000**		5,000	1,000**		5,000
USFS	OB	Fed.					43,000	-----		43,000	-----
<b>TOTAL</b>			<b>57,000</b>	<b>80</b>	<b>12,500</b>	<b>4,226,613</b>	<b>65,493</b>	<b>4,729,164</b>	<b>4,283,613</b>	<b>65,573</b>	<b>4,741,664</b>

#### \* Abbreviations

VOLC = Variable Oak Leaf Caterpillar

WG = White Grub

IPS = *Ips* beetles

PW = Pales Weevil

BW = Bagworm

LPS = Loblolly Pine Sawfly

VPS = Virginia Pine Sawfly

TA = Town Ant

BTB = Black Turpentine Beetle

OB = Oak Borers

S&P = State and Private Ownership

Fed. = Federal Ownership

\*\* Frasier fir christmas trees

**Survey of Damage Caused by Forest Insects in the Southeast, CY 1999**

**Damage Class D – Miscellaneous** (sorted by Insect and Ownership and compared to CY 1998)

Insect*	Ownership*	CY 1999 TOTAL DAMAGE			CY 1998 TOTAL DAMAGE		
		# of Trees	# of Acres	Value	# of Trees	# of Acres	Value
VOLC	S&P	638,104	21,270	-----	500	10	2,000
WG	S&P	2,085,600	3	75,906	69,680	80	5,600
IPS	S&P	1,350		5,000	12,929	1	263,400
PW	S&P	156,000	100	2,500	3,530,340	4,610	143,529
BW	S&P	1,000		10,000	520		2,000
LPS	S&P	209		68	596	5,000	145,206
VPS	S&P	50		150	-----	-----	-----
TA	S&P	720,000	1,200	114,000	1,425,000	2,850	256,500
BTB	S&P	300		1,500	818	10	20,200
BWA	S&P	1,000		5,000	-----	-----	-----
OB	S&P	50,000		4,500,000	500,100	10	5,000
OB	Fed.		43,000	-----	-----	-----	-----
ELB	S&P	-----	-----	-----	91,000	238,000	-----
ETC	S&P	-----	-----	-----	1,000		1,000
FC	S&P	-----	-----	-----		12,000	100,620
FTC	S&P	-----	-----	-----		11,800	92,040
FW	S&P	-----	-----	-----	750,000	7,000,000	-----
LB	S&P	-----	-----	-----	10,000		30,000
SPB	S&P	-----	-----	-----	39,139		494,995
<b>TOTAL</b>		<b>4,283,613</b>	<b>65,573</b>	<b>4,741,664</b>	<b>6,431,622</b>	<b>7,274,371</b>	<b>1,562,090</b>

\* Abbreviations

VOLC = Variable Oak Leaf Caterpillar

WG = White Grub

IPS = *Ips* beetles

PW = Pales Weevil

BW = Bagworm

LPS = Loblolly Pine Sawfly

VPS = Virginia Pine Sawfly

TA = Town Ant

BTB = Black Turpentine Beetle

BWA = Balsam Woolly Adelgid

OB = Oak Borers

ELB = Elm Leaf Beetle

ETC = Eastern Tent Caterpillar

FC = Fall Cankerworm

FTC = Forest Tent Caterpillar

FW = Fall Webworm

LB = Locust Borer

SPB = Southern Pine Beetle

S&P = State and Private Ownership

Fed. = Federal Ownership

## Survey of Damage Caused by Forest Insects in the Southeast, CY 1999

### Damage Class E – Oak Defect and Degrade (CY1998)

Carpenterworm, red oak borer, and other oak borer species cause significant defect and loss to oaks harvested across the southeast on federal, state, and private lands.

In a series of degrade studies, defect and loss in value caused by insects averaged \$20.65 per MBF in 31 samples of lumber cut from 9 oak species taken from 4 states (Morris 1977: Southern Lumberman 234:19-20). This is seen as a conservative figure since others have estimated the loss at slightly greater than \$20.65 per MBF. Across 13 southeastern states during calendar year 1998, the economic loss in oaks due to insect-caused defect and degrade is estimated at **\$29,178,450**. *This is an increase of \$309,957 over the estimated economic losses in CY 1997.* The loss figure is derived by multiplying \$20.65 by the latest estimate (1998) of oak lumber production for the 13 states. The approximate amount of oak harvested across the southeast in CY 1998 is 1,413,000 MBF. *This harvest amount is 15,010 MBF greater than the amount estimated in CY 1997.* The annual cut of oak lumber was derived from tables in the 1998 Current Industrial Report, Lumber Production and Mill Stocks, Series: MA321T998)-1, USDC Bureau of the Census, Washington, D.C., 1999, 10p.

Individual Current Industrial Reports (CIRs) are available on the internet at:

<http://www.census.gov/econ/www/manumenu.html>.

## **APPENDIX I**

Each respondent for this year's Report on Losses Caused by Forest Insects was asked to fill in a code for "Method of Estimation" for each *estimated* figure they submitted. This was done in an attempt to better understand how the estimated damage figures are generated.

Among the 6 codes for Method of Estimation, a total of 96 entries were submitted on the data forms. Following is the order (most to least reported) in which the methods were used:

- |          |                            |   |
|----------|----------------------------|---|
| 1.       | Ground Survey:             | 25 entries; <b>26%</b> of total (last year = 27.3%)   |
| 2.       | Projection From Past Data: | 23 entries; <b>24%</b> of total (last year = 17.9%)   |
| 3.       | Aerial Survey:             | 15 entries; <b>15.5%</b> of total (last year = 19.6%) |
| 4.       | Info. From Outside Source: | 13 entries; <b>13.5%</b> of total (last year = 13.7%) |
| 6. (tie) | Windshield Survey:         | 10 entries; <b>10.5%</b> of total (last year = 13.7%) |
| 6. (tie) | Other Methods:             | 10 entries; <b>10.5%</b> of total (last year = 7.8%)  |

(96 entries total)