From: Laurie Reid

Date: 30 May 2012

Subject: Results of 2012 SPB Pheromone Trapping

We have completed the 2012 Southern Pine Beetle (SPB) pheromone trapping. The results of this survey are attached.

A total of 32 S.C. counties were trapped for SPB in 2012 using protocol devised by Billings, et al. This protocol includes monitoring three (3) pheromone traps in each county for a 28-day period during early spring. Insects captured in each trap are returned to the laboratory for analysis. The total number of SPB for each trap is determined as well as the percentage of SPB to clerid beetles. Since clerid beetles are major predators of SPB, the percentage of clerid beetles trapped is factored into insect population projections. Based on this trapping, a population prediction trend is determined for each county. In the past, such surveys have had a success rate of over 80% in predicting the degree of SPB infestation during the following summer. Last year we predicted little to no losses in all trapped counties. Although we had sporadic beetle activity in many counties, it was at low levels.

We predict none of the counties trapped this year to experience a severe Southern Pine Beetle outbreak. This is the same prediction as last year. Additionally, we did not trap sufficient beetles receive a prediction of static – moderate pine mortality in any county this spring. All 32 counties we sampled had few beetles trapped and are not expected to have widespread problems. These counties include Abbeville, Anderson, Beaufort, Berkeley, Charleston, Cherokee, Chester, Colleton, Dorchester, Edgefield, Fairfield, Florence, Georgetown, Greenville, Greenwood, Hampton, Horry, Jasper, Kershaw, Lancaster, Laurens, Lexington, McCormick, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, Union, Williamsburg, and York. This trapping information is presented in tabular form later in this report.

Statewide, the number of Southern Pine Beetles trapped decreased by 52% from last year's total and the number of clerids increased by 114%. Although the clerid population has been relatively low for the past seven years, the low numbers of SPB trapped should result in little SPB development in most areas, including those areas where we historically have beetle activity.

In some of the trapped counties, we have experienced very low level of SPB activity for the last several years while in many counties we have seen no SPB activity. We expect the clerids will continue to hold the SPB level down and beetle spots that occur should spread slowly and be fairly easy to control.

In the coastal plain counties, we trapped very few beetles again this year. The low trap levels this year indicate unfavorable conditions for SPB development. Historically, outbreaks in the coastal plain occur shortly after climatological changes. The change is usually from drought to excess soil moisture. This pattern of precipitation has occurred during the last few years, and some pines have been dying. However, in most locations, the culprits have been either Black Turpentine beetles, Ips engraver beetles, or a combination of both of these beetles. There were several small Southern Pine Beetle spots last year several coastal counties.

These trapping data results are for entire counties and there is always the possibility of sporadic and localized beetle activity in counties with overall predictions of low population levels. Activity is most likely in susceptible pine stands that are overstocked, overmature or stagnant, have poor drainage or have littleleaf, annosus, or other root diseases present and causing stress.

We will be conducting aerial surveys in all South Carolina counties this summer. In the unlikely event of significant beetle activity, we will fly 100% surveys and notify affected landowners that beetle spots are present on their properties.

As mentioned above, Ips and Black Turpentine Beetles continue to cause mortality in overstocked stands and in areas where excessive rainfall coupled with impermeable hardpan caused some drowning of roots. A summer drought was also responsible for some stress that led to attack by these less aggressive beetles. Since these insects require different control tactics than SPB, it is important to determine which insect is causing each infestation. Ips beetles are identifiable by their galleries that are usually H or I shaped rather than the winding galleries of Southern Pine Beetles. Adult Ips beetles also eject the frass from their galleries while the SPB packs its galleries with frass. Black Turpentine Beetles attack the basal portions of the trunk and are a much slower killer than SPB or Ips. We can assist with this identification or provide training where needed. Last summer we evaluated multiple stands that were harvested due to Ips and Black Turpentine Beetle activity.

In summary, most of South Carolina can expect a year of low to minimal loss to southern pine beetle and related bark beetles. However, we may see some degree of loss statewide, especially if we have additional stress factors. Control by commercial salvage is effective in stopping any of the bark beetles infesting pines. Another possibility for control of Southern Pine Beetle only is the cut and leave technique. In this control strategy, infested trees and a buffer of apparently uninfested pines are cut but not necessarily salvaged.

5500 Broad River Road
P.O. Box 21707, Columbia, South Carolina 29221
Telephone (803) 896-8800 Facsimile (803) 798-8097

This method works best from May – October due to high daytime temperatures and SPB biological factors. This is not effective for Ips or BTB spots since those insects breed and mature easily in cut pines or stumps.

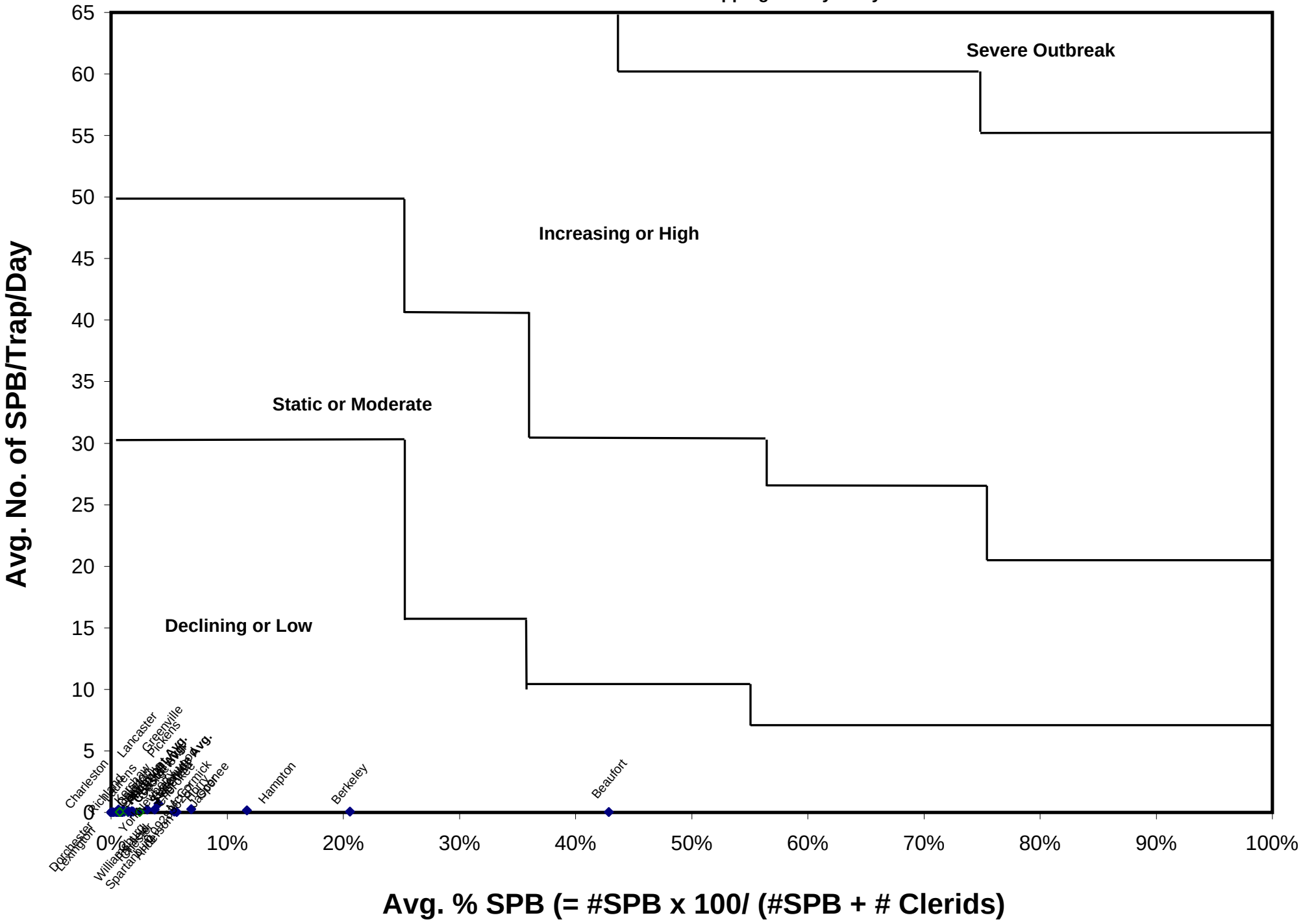
It is difficult to predict the degree of loss to SPB since environmental factors affect tree loss due to SPB. However, our best guess for S.C. for 2012 is for a loss of less than one million dollars. As usual, a hot summer with extended temperatures over 100 degrees Fahrenheit should constrain SPB development.

Please contact us if you have any questions or if we can provide additional information.

Laurie Reid

5500 Broad River Road
P.O. Box 21707, Columbia, South Carolina 29221
Telephone (803) 896-8800 Facsimile (803) 798-8097

South Carolina Forestry Commission
Southern Pine Beetle Pheromone Trapping Survey - May 2012



2012 SOUTHERN PINE BEETLE PHEROMONE TRAPPING RESULTS
South Carolina Forestry Commission
20 May 2012

Severe Outbreak Prediction Trend (1)

County	Trapping Days	#SPB	#Clerids	% SPB	SPB/Day

No counties in South Carolina are predicted to have a severe outbreak in 2012.

Increasing - High Prediction Trend (2)

County	Trapping Days	#SPB	#Clerids	% SPB	SPB/Day

No counties in South Carolina are predicted to have an increasing-high trend in 2012.

Static - Moderate Prediction Trend (3)

County	Trapping Days	#SPB	#Clerids	% SPB	SPB/Day

No counties in South Carolina are predicted to have a static-moderate trend in 2012.

Declining - Low Prediction Trend (4)

County	Trapping Days	#SPB	#Clerids	% SPB	SPB/Day
Abbeville	81	12	1633	1%	0.15
Anderson	84	4	230	2%	0.05
Beaufort	84	3	4	43%	0.04
Berkeley	86	7	27	21%	0.08
Charleston	86	1	122	1%	0.01
Cherokee	105	3	688	0%	0.03
Chester	81	1	459	0%	0.01
Colleton	81	0	148	0%	0.00
Dorchester	81	2	427	0%	0.02
Edgefield	87	20	619	3%	0.23
Fairfield	87	20	3039	1%	0.23
Florence	88	2	264	1%	0.02
Georgetown	84	8	439	2%	0.10
Greenville	90	3	202	1%	0.03
Greenwood	81	57	1345	4%	0.70
Hampton	84	13	98	12%	0.15
Horry	77	3	50	6%	0.04
Jasper	81	5	87	5%	0.06
Kershaw	84	6	313	2%	0.07

2012 SOUTHERN PINE BEETLE PHEROMONE TRAPPING RESULTS

South Carolina Forestry Commission

20 May 2012

Declining - Low Prediction Trend (4) (continued)

County	Trapping Days	#SPB	#Clerids	% SPB	SPB/Day
Lancaster	84	1	633	0%	0.01
Laurens	84	0	354	0%	0.00
Lexington	90	5	570	1%	0.06
McCormick	87	22	565	4%	0.25
Newberry	84	16	1548	1%	0.19
Pickens	84	1	152	1%	0.01
Oconee	84	24	347	6%	0.29
Richland	87	0	373	0%	0.00
Saluda	87	4	709	1%	0.05
Spartanburg	87	5	430	1%	0.06
Union	87	0	224	0%	0.00
York	84	5	497	1%	0.06
State Totals	2,736	254	16,673	2%	0.09
Coastal Totals	927	45	1,767	2%	0.05
Piedmont Totals	1,809	209	14,906	1.38%	0.12

Severe Outbreak: High probability for major losses

Increasing - High: Greater than 100% increase from previous year

Static - Moderate: Less than a 50% decline to less than 100% increase from previous year

Declining - Low: Greater than a 50% decline from previous year

PAST SURVEYS

2011 Statewide Average Prediction Trend: Declining - Low

Counties Trapped	Trapping Days	#SPB	#Clerids	%SPB	SPB/Day	Loss
32	2,821	526	7,802	6	0.19	$40,949

2010 Statewide Average Prediction Trend: Declining - Low

Counties Trapped	Trapping Days	#SPB	#Clerids	%SPB	SPB/Day	Loss
31	2,318	5,726	18,707	23	2.47	$64,827

2009 Statewide Average Prediction Trend: Declining - Low

Counties Trapped	Trapping Days	#SPB	#Clerids	%SPB	SPB/Day	Loss
31	1,824	3,314	16,671	17	1.82	$159,917

2008 Statewide Average Prediction Trend: Declining - Low

Counties Trapped	Trapping Days	#SPB	#Clerids	%SPB	SPB/Day	Loss
31	2,589	7,257	7,637	49	2.8	$529,559

2007 Statewide Average Prediction Trend: Declining - Low

Counties Trapped	Trapping Days	#SPB	#Clerids	%SPB	SPB/Day	Loss
31	2,579	6,849	12,403	36%	2.66	$582,367

Severe Outbreak: High probability for major losses

Increasing - High: Greater than 100% increase from previous year

Static - Moderate: Less than a 50% decline to less than 100% increase from previous year

Declining - Low: Greater than a 50% decline from previous year