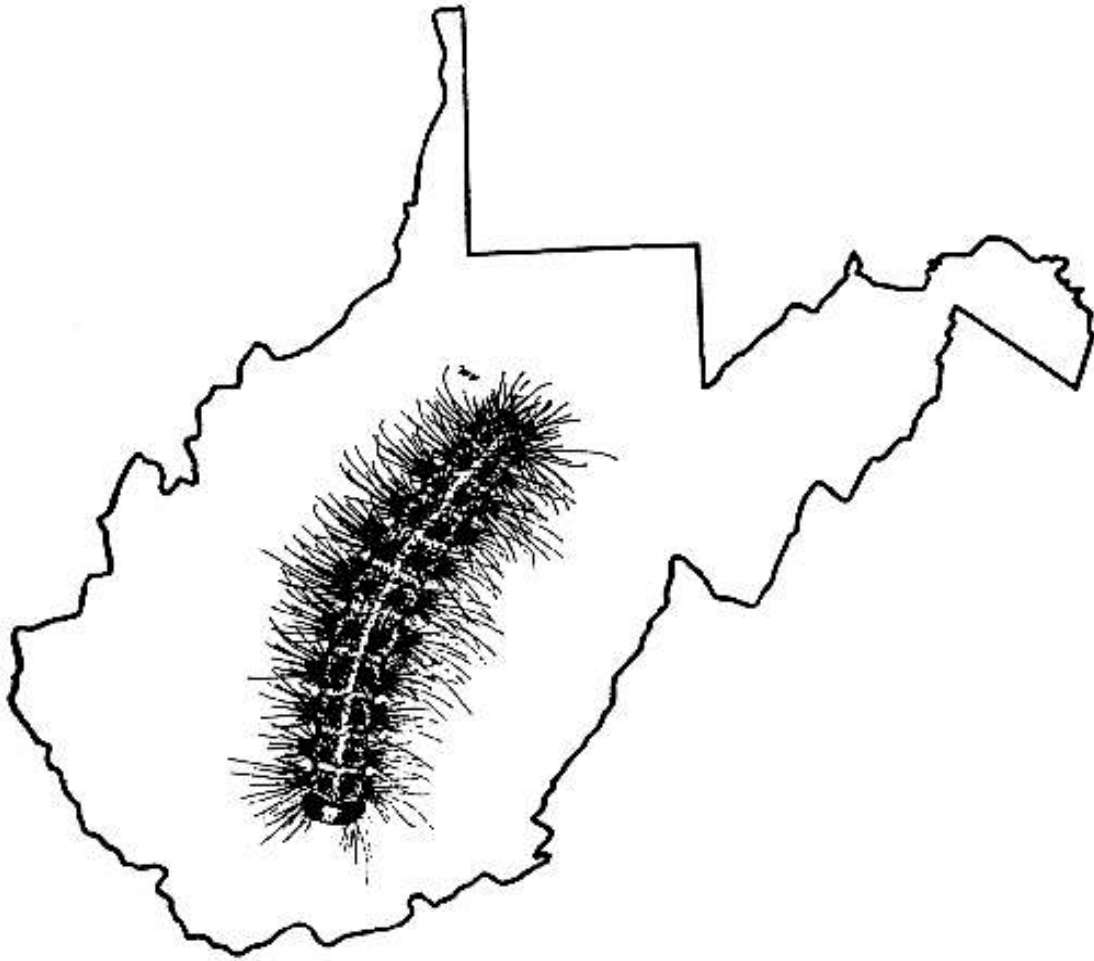


2010-2011 Gypsy Moth Update (Summary, Statistics and Landowner Program)



West Virginia Department of Agriculture
Plant Industries Division
1900 Kanawha Blvd., East
Charleston, WV 25305-0191
(304) 558-2212
January 2011

**WEST VIRGINIA
DEPARTMENT OF AGRICULTURE
2010 GYPSY MOTH SUPPRESSION PROGRAMS**



**Quentin "Butch" Sayers, Gypsy Moth Program Manager
S. Clark Haynes, Assistant Director**

The gypsy moth is the most serious insect pest ever to invade West Virginia's forests. The first adult male gypsy moths were trapped in West Virginia in 1972. The first caterpillars were found in 1978. Since then this destructive insect has continued to spread, while funding to combat the pest has been difficult to maintain. These circumstances created the need for a gypsy moth cooperative suppression program for landowners in the generally infested areas in West Virginia.

The West Virginia Department of Agriculture (WVDA) objectives in its Gypsy Moth Program are; first, to retard the spread of the pest into non-infested areas of the state through the Gypsy Moth Slow the Spread (STS) Program and, second, to suppress gypsy moth populations in infested areas to limit, as much as possible, defoliation and tree mortality through the WVDA Gypsy Moth Cooperative State County Landowner (CSCL) Program. The WVDA strives to continue to minimize the adverse impact on forest resources, preserve aesthetic values, protect people from the annoyance and health problems that can occur when in contact with large numbers of gypsy moth caterpillars, and slow the spread of gypsy moth by reducing populations on the advancing front.

The WVDA CSCL Program is a cooperative effort between West Virginia landowners, the County Commissions in the generally infested counties, the West Virginia University (WVU) Cooperative Extension Service, the WVDA, and the United States Department of Agriculture, Forest Service (USDA-FS). Aerial treatment will be done in the generally infested area on a demand basis only to minimize the damage to forests and reduce the impact of the gypsy moth in future years. These treatments will not be done with the intent of eradicating the pest. The WVDA will offer gypsy moth treatment with either of two materials, Dimilin or Btk. The landowner may request the use of either material. However, final approval for use will depend on site evaluation by the WVDA. The site evaluation will determine if an area meets criteria set forth on the pesticide label and other possible restrictions.

The goal of the WVDA STS Project is to use novel integrated pest management (IPM) strategies in order to reduce the rate of gypsy moth spread into uninfested areas. The WVDA STS Program focuses on low-level populations in the transition zone between areas considered

generally infested and generally uninfested. This new IPM (Integrated Pest Management) strategy is dependent upon intensive monitoring of low moth populations coupled with timely control of growing isolated populations

Any state funds that become available will be used first to treat isolated infestations of the gypsy moth, which may occur outside the normal pattern of infestation, and low-density populations on the fringe of the main infestation. If no such infestations or populations exist in a particular year, any available state funds will be used across the board to treat state lands and reduce the landowner share of the cost in the cooperative program.

QUARANTINE

West Virginia currently has 39 counties regulated and are considered generally infested for gypsy moth. The WVDA regulates the movement of articles out of these counties into non-quarantined counties. There were no new counties quarantined in West Virginia in 2010 and the WVDA does not expect to quarantine any additional counties in 2011.

GYPSY MOTH POPULATION

Gypsy moth populations declined in West Virginia in 2010 primarily because of the presence of the fungus Entomophaga maimaiga in 2009. In 2010, the WVDA completed 3,167 gypsy moth egg mass surveys. The surveys covered a total of 276,904 acres for 4,525 landowners. Even though gypsy moth egg masses were below the threshold for treatment under the WVDA CSCL Program some defoliating populations may occur in the eastern panhandle and the southeastern counties of Monroe and Greenbrier in 2011.

GYPSY MOTH SUPPRESSION -Cooperative State County Landowner (CSCL) Program

No gypsy moth larval treatments were conducted by the WVDA CSCL Program in 2010.

REGULATORY SUPPRESSION (Insecticide Treatments)

There were no gypsy moth regulatory treatments in West Virginia in 2010.

GYPSY MOTH SLOW THE SPREAD (STS) SUPPRESSION (Insecticide Treatments, Pheromone Flake Treatments)

In 2010, the WVDA/ USDA-FS applied pheromone flakes at the rate of 6 grams/acre to four treatment blocks totaling 62,588 acres in Boone, Logan, Raleigh, and Wyoming Counties. Al's Aerial Service was the contractor.

GYPSY MOTH SLOW THE SPREAD (STS) TRAPPING PROGRAM

In 2010, the WVDA Gypsy Moth STS Trapping Program had traps placed in the STS 2k Action Area and 3k and 8k Monitoring Areas. The Action Area covered approximately 4,102,070 acres. The 3k and 8k Monitoring Areas covered about 5,095,602 acres in West

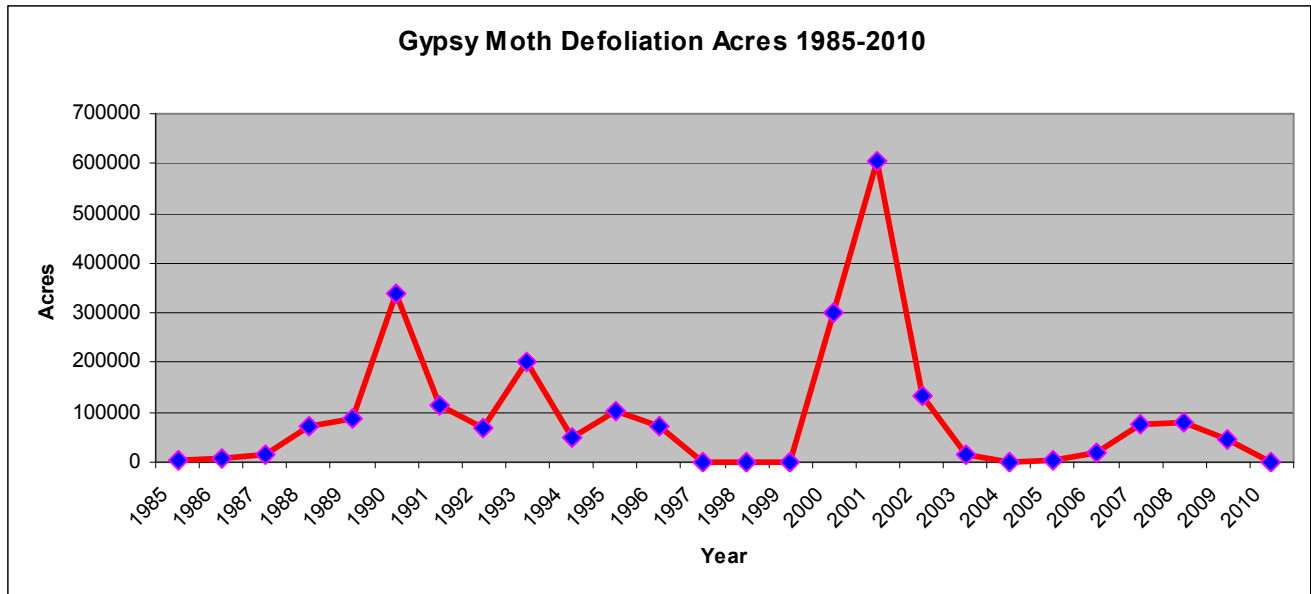
Virginia. The 2k base-grid was set with delta traps. Milk carton traps were used within the 3k and 8k Monitoring Areas and select intensive grids (500m and 1k). A total of 5,419 traps were proposed across West Virginia and a total of 5,397 traps were set. At the time of this publication, STS trap catches were higher within the State than in 2009.

The following is a break down of the 2010 trapping program.

Traps by Trapping Grid				
<u>Grid</u>	<u>Proposed</u>	<u>Omits</u>	<u>Set</u>	
500m	101	11	90	
1k	96	11	96	
2k	4,160		4,149	
3k	868		868	
8k	194		194	
Random	0			
Totals	5,419	22	5,397	
Traps by Program Area				
<u>Grid</u>	<u>Proposed</u>	<u>Omits</u>	<u>Set</u>	
STS Action Area	4,357	22	4,335	
STS Monitoring	1,062		1,062	
Random	0			
Totals	5,419	22	5,397	
Traps by Trap Type				
<u>Grid</u>	<u>Proposed</u>	<u>Omits</u>	<u>Set</u>	
Delta Traps	4,277	22	4,255	
Milk Cartons	1,142		1,142	
Random	0			
Totals	5,419	22	5,397	

DEFOLIATION

In 2010, WVDA Cooperative Forest Health Protection Specialists flew 2,777,026 acres in 11 counties for gypsy moth defoliation. No gypsy moth defoliation was found.



Gypsy Moth Defoliated Acres 1985-2010

1985.....	3,004
1986.....	8,250
1987.....	14,435
1988.....	72,000
1989.....	86,736
1990.....	338,776
1991.....	112,900
1992.....	67,508
1993.....	202,490
1994.....	50,257
1995.....	102,961
1996.....	70,726
1997.....	476
1998.....	786
1999.....	0
2000.....	299,418
2001.....	603,630
2002.....	132,197
2003.....	13,923
2004.....	0
2005.....	2,641
2006.....	17,272
2007.....	77,910
2008.....	81,308
2009.....	44,282
2010.....	0

Gypsy Moth Treatment Acres 1983-1994

1983.....	16,735
1984.....	46,992
1985.....	54,020
1986.....	83,410
1987.....	85,000
1988.....	139,124
CSCL ¹	33,541
Transition Zone.....	105,583
1989.....	77,696
CSCL.....	51,039
AIPM ²	23,727
Federal.....	930
1990.....	364,455
CSCL.....	78,820
Transition Zone.....	107,931
AIPM.....	177,704
1991.....	96,273
CSCL.....	28,154
AIPM.....	68,119
1992.....	89,588
CSCL.....	29,924
AIPM.....	47,663
1993.....	72,018
CSCL.....	61,505
WVDA Regulatory.....	120
STSP ³ - Mating Disruption.....	238
Federal.....	10,155
1994.....	119,504
CSCL.....	103,034
WVDA Regulatory.....	211
STSP.....	11,874
STSP - Mating Disruption.....	4,385

¹Cooperative State-County-Landowner Program Area

²Appalachian Integrated Pest Management Project

³Slow the Spread Pilot Project

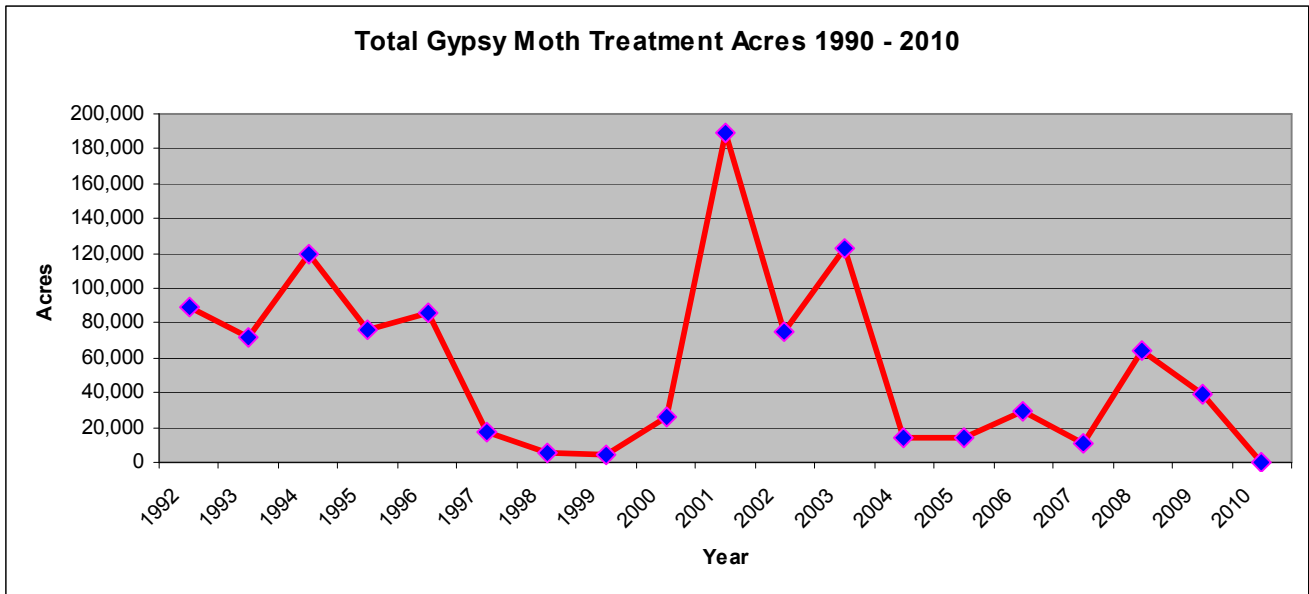
Gypsy Moth Treatment Acres 1995-2004

1995.....	76,055
CSCL	51,397
Federal	15,171
STSP	9,225
STSP - Mating Disruption.....	262
1996.....	85,798
CSCL	67,847
STSP	13,709
STSP - Mating Disruption.....	4,242
1997.....	17,511
CSCL	11,201
STSP	3,055
STSP - Mating Disruption.....	3,255
1998 – STSP - Mating Disruption.....	5,645
1999.....	4,215
STSN ⁴	1,170
STSN - Mating Disruption	3,045
2000	26,316
CSCL	7,417
STSN.....	17,749
STSN - Mating Disruption	1,150
2001.....	188,708
CSCL	136,900
Federal	15,208
STSN - Mating Disruption	36,600
2002.....	74,584
CSCL	74,244
WVDA Regulatory.....	340
2003.....	122,778
CSCL	4,270
Federal	4,283
STSN - Mating Disruption	114,225
2004.....	14,400
STSN.....	4,400
STSN - Mating Disruption	10,000

⁴Slow the Spread National Project

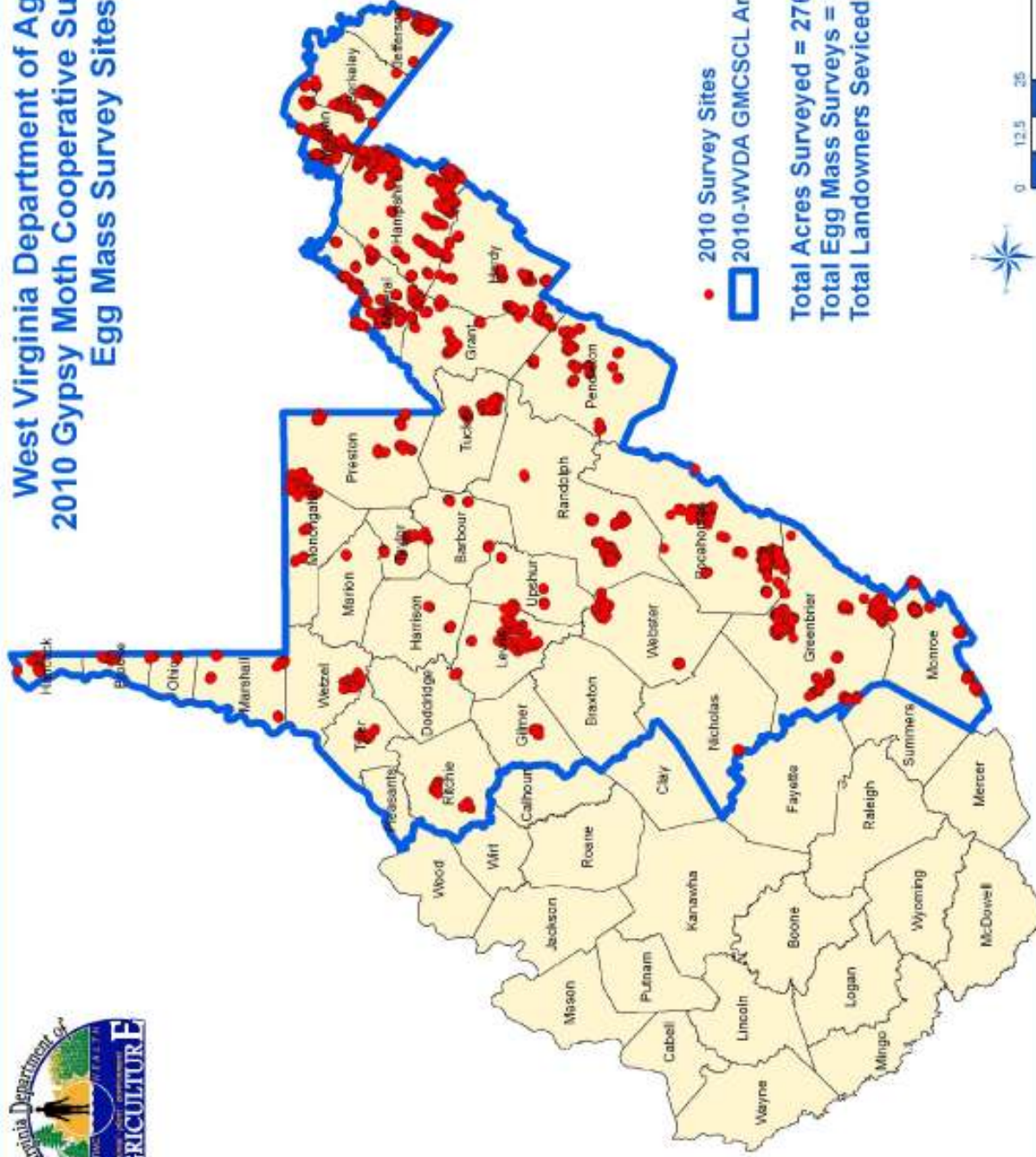
Gypsy Moth Treatment Acres 2005-2010

2005	13,650
STSN - Mating Disruption	13,650
2006	29,142
CSCL	8,121
STSN	10,840
STSN – Mating Disruption	10,181
2007	11,156
CSCL	11,156
2008	64,495
CSCL	64,495
2009	46,210
CSCL	39,280
STSP – Mating Disruption	6,930
2010	62,588
CSCL	0
STSP – Mating Disruption	62,588



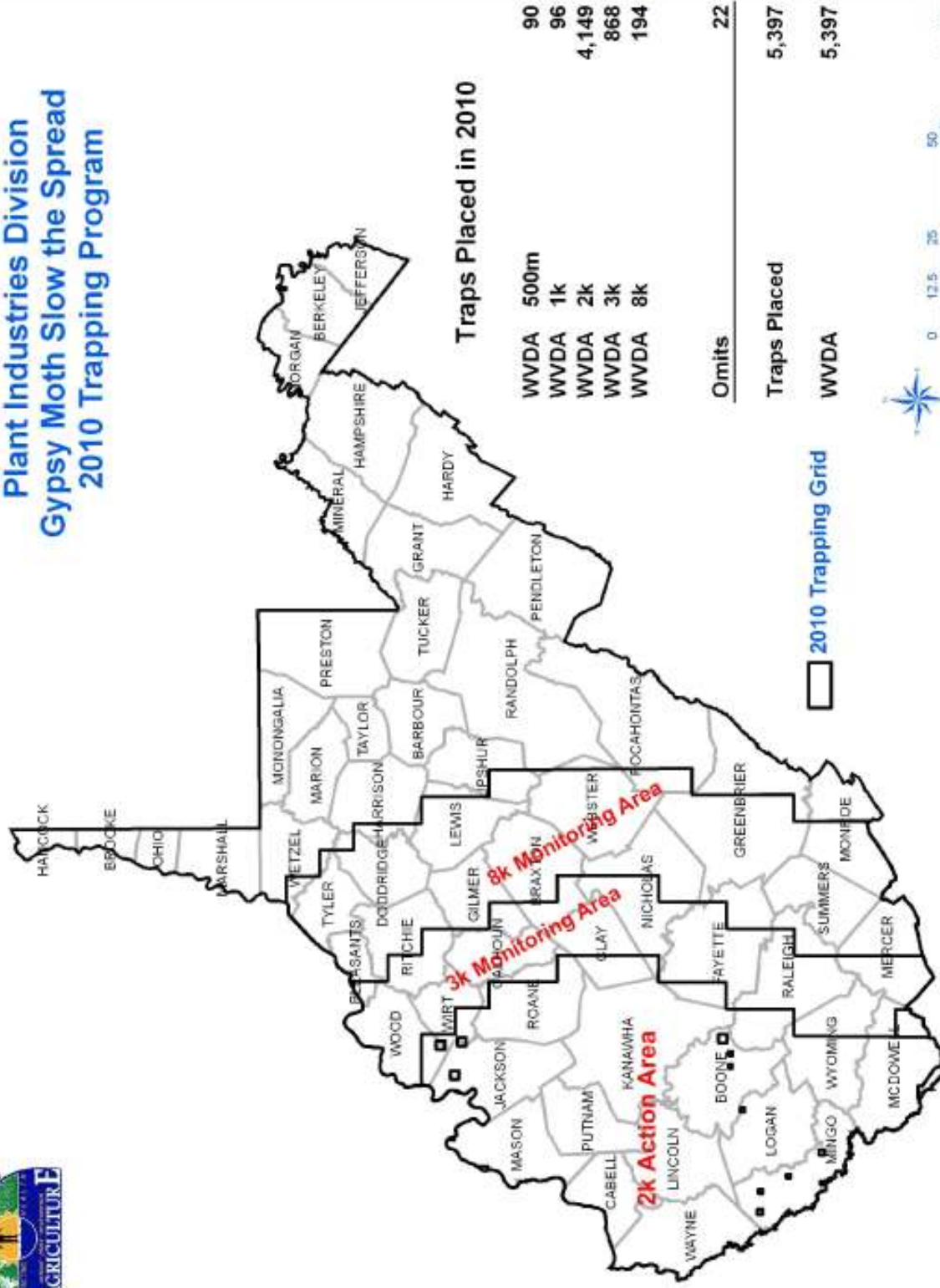


West Virginia Department of Agriculture 2010 Gypsy Moth Cooperative Suppression Egg Mass Survey Sites





West Virginia Department of Agriculture Plant Industries Division Gypsy Moth Slow the Spread 2010 Trapping Program



Traps Placed in 2010

WVDA	500m	90
WVDA	1k	96
WVDA	2k	4,149
WVDA	3k	868
WVDA	8k	194

Omits 22

Traps Placed 5,397

WVDA 5,397



2010 Trapping Grid

October 22, 2010

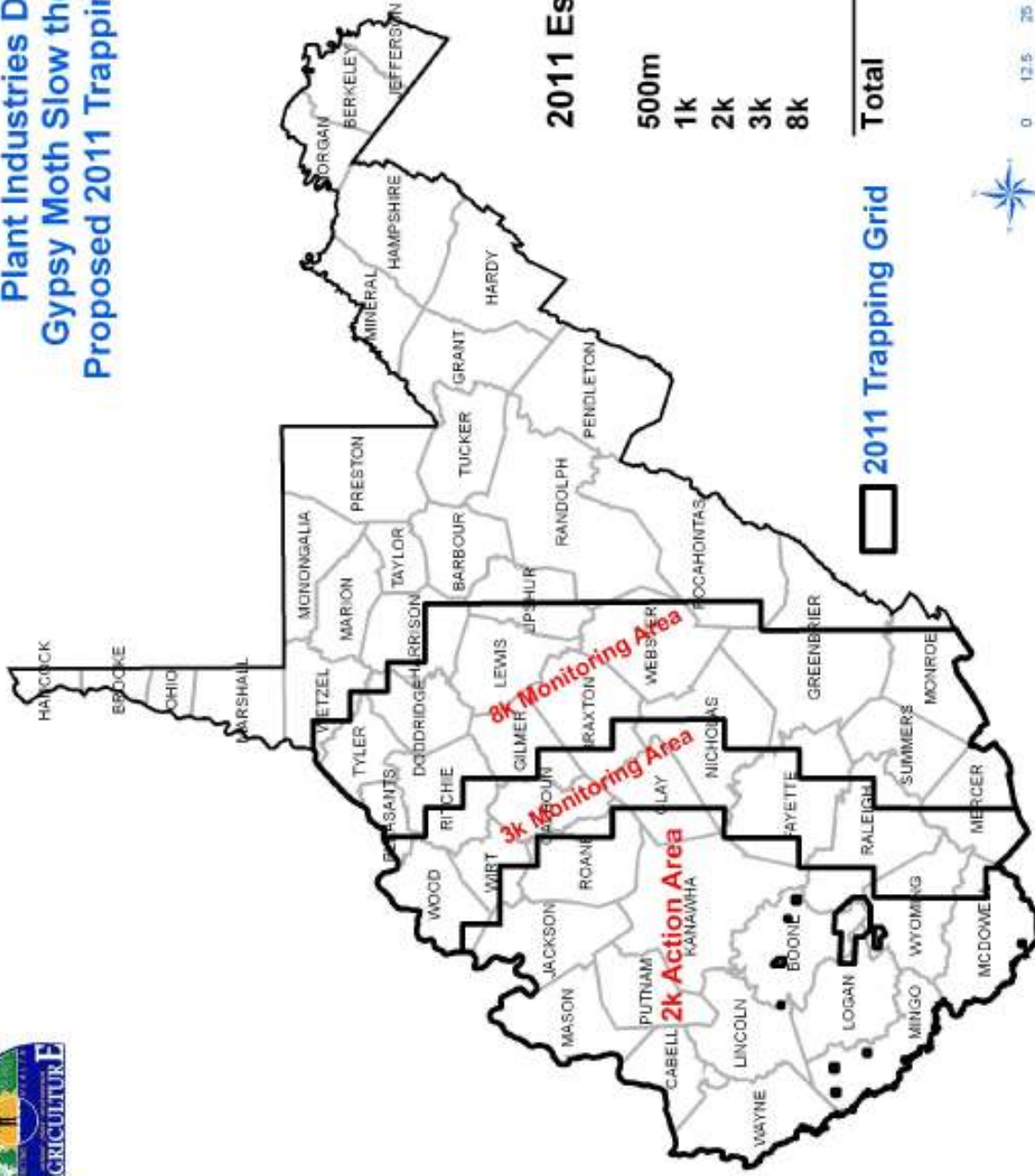
WEST VIRGINIA 2010 GYPSY MOTHS TRAPPING DATA

County	Traps Placed	Omitted Traps	Total Service Checks	Single Catch Traps	Multiple Catch Traps	Total Catch in Multiple Traps	Total Catch
BOONE	349	2	677	9	4	19	28
BRAXTON	50	0	85	10	31	597	607
CABELL	186	0	221	2	0	0	2
CALHOUN	81	0	108	12	11	31	43
CLAY	137	0	177	17	29	493	510
DODDRIDGE	11	0	11	0	11	262	262
FAYETTE	197	0	338	24	84	1,520	1,544
GILMER	34	0	44	7	9	35	42
GREENBRIER	28	0	38	1	25	1,684	1,685
HARRISON	1	0	1	0	1	65	65
JACKSON	316	0	473	8	2	5	13
KANAWHA	589	0	856	41	9	21	62
LEWIS	16	0	26	1	15	357	358
LINCOLN	286	1	506	0	0	0	0
LOGAN	304	6	515	8	0	0	8
MASON	285	0	511	4	0	0	4
MCDOWELL	367	0	476	20	51	493	513
MERCER	59	0	152	1	54	1,333	1,334
MINGO	320	12	494	7	8	24	31
MONROE	12	0	32	1	10	289	290
NICHOLAS	104	0	154	5	76	2,645	2,650
PLEASANTS	13	0	21	1	10	325	326
POCAHONTAS	3	0	4	0	3	312	312
PUTNAM	227	0	376	0	0	0	0
RALEIGH	193	1	359	23	56	742	765
RITCHIE	62	0	92	4	56	697	701
ROANE	289	0	440	21	4	8	29
SUMMERS	15	0	38	1	12	167	168
TYLER	10	0	10	0	10	314	314
UPSHUR	2	0	3	0	2	780	780
WAYNE	330	0	383	0	0	0	0
WEBSTER	20	0	25	0	19	2,271	2,271
WETZEL	3	0	3	0	3	92	92
WIRT	102	0	208	14	22	197	211
WOOD	140	0	280	22	20	198	220
WYOMING	256	0	455	8	31	325	333

Total	5,397	22	8,592	272	678	16,301	16,573



West Virginia Department of Agriculture
 Plant Industries Division
 Gypsy Moth Slow the Spread
 Proposed 2011 Trapping Program



2011 Estimated Traps

500m	95
1k	247
2k	4,148
3k	894
8k	213
Total	5,957

2011 Trapping Grid