



Forest Health *Notes*



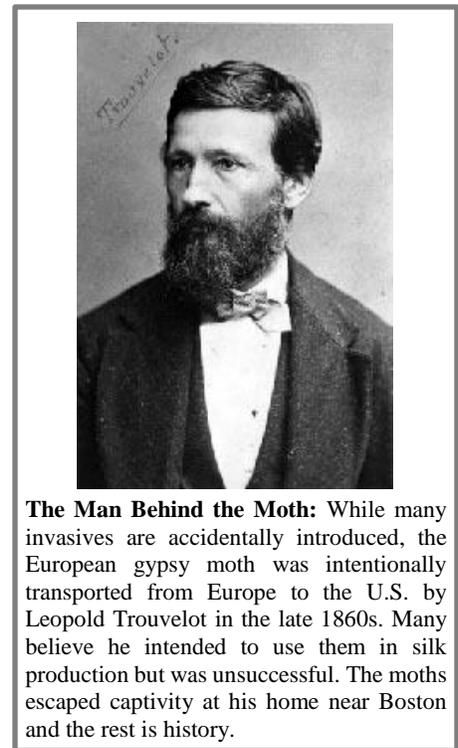
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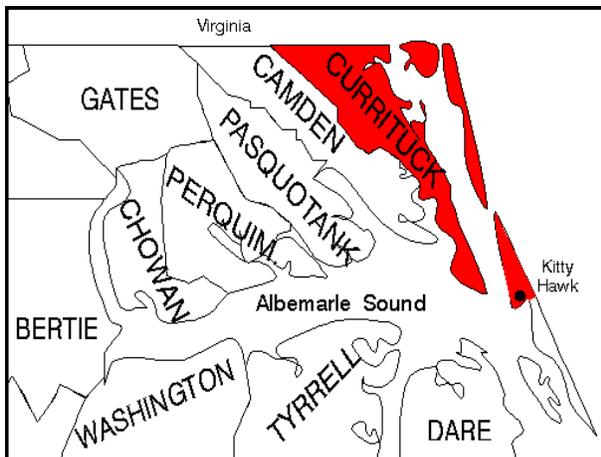
2019-2020 Gypsy Moth Program Update

BACKGROUND

The Gypsy Moth Program. The gypsy moth program in N.C. is under the jurisdiction of the NCDA&CS – Plant Industry Division and we thank them for providing these results. North Carolina is on the leading edge of the expanding gypsy moth front. To prevent further establishment of gypsy moth in our state, traps are set annually for male gypsy moths using pheromone-baited traps (the lure mimics the sex pheromone produced by female gypsy moths). Through the **Slow the Spread (STS)** program, contractors trap the northern portion of N.C., while numerous cooperators trap the remainder of the state, including some overlap with STS counties. Trapping provides information about gypsy moth populations and enables decision making with regards to efficient treatments.



The Man Behind the Moth: While many invasives are accidentally introduced, the European gypsy moth was intentionally transported from Europe to the U.S. by Leopold Trouvelot in the late 1860s. Many believe he intended to use them in silk production but was unsuccessful. The moths escaped captivity at his home near Boston and the rest is history.



Quarantined Area. All of Currituck County and part of Dare County are under a quarantine for gypsy moth (quarantine established in 1988). Regulated articles (e.g., logs, nursery plants, outdoor household articles) can only leave the quarantined area if they are inspected or treated (must also have a compliance agreement with NCDA&CS – Plant Industry Division).

Determining Treatments. Because traps only indicate how many male moths are in an area, trap capture data cannot be used alone as a basis for treatment decisions. Determining where to treat and what treatment method to use is based on several factors: the previous year’s trap counts, historical trap data in the area, and results from winter egg/pupal case surveys. When these data are combined, they reveal with more confidence whether a location is infested with a reproducing gypsy moth population (both males and females are present) or if the male moths were blown in during a weather event or some other phenomenon.

Does ‘Slow the Spread’ really work?
 The STS program is undeniably a success story.

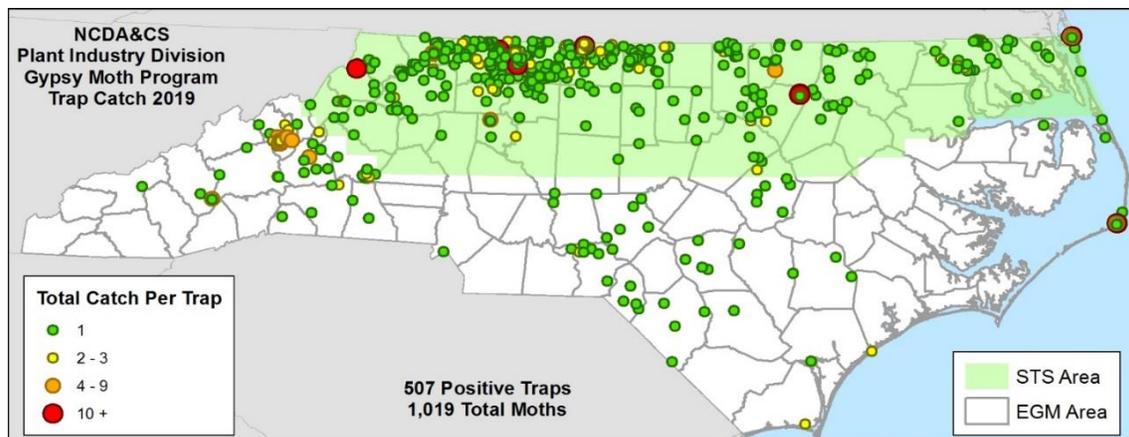
- STS has reduced the spread of gypsy moth by 60% from the historical average of 21 km/yr to less than 9 km/yr.
- Without STS, gypsy moth would likely be established on 140 million additional acres.
- N.C. does not have gypsy moth defoliation events that other states within its range have.

RESULTS

2019 Trapping Results. The 2019 trapping season produced more positive trap captures than in 2018 (see table & map of trap capture locations below). For a list of trap catches by county, reference the table at the end of this publication.

Gypsy moth trap & treatment data from 2013-2019.

	<u>2019-20</u>	<u>2018-19</u>	<u>2017-18</u>	<u>2016-17</u>	<u>2015-16</u>	<u>2014-15</u>	<u>2013-14</u>
Total moths captured	1,019	594	1,628	7,235	2,021	757	431
Number positive traps	507	343	881	3,172	915	348	247
Total traps placed	17,612	18,003	18,772	17,897	12,939	13,631	10,380
Number of treatments	10 (proposed)	1	11	6	11	3	3
Total acreage of treatments	26,180 (proposed)	1,095	118,169	27,865	35,019	21,250	2,495



2019 Gypsy moth trap catches. Map created by C. Buddenbaum, NCDA&CS.

Proposed 2020 Treatments. Based on the 2019 trap captures and winter surveys, eight mating disruption treatments totaling 25,390 acres and two Btk treatments totaling 790 acres were proposed to receive treatments in 2020. An interactive map of the treatment areas can be viewed at: <http://www.ncagr.gov/plantindustry/Plant/entomology/ProposedGypsyMothTreatments.htm>

BLOCK NAME	COUNTY	ACRES	TREATMENT TYPE	NO. OF APPLICATIONS
Buxton	Dare	490	BTK	2
Centerville	Franklin	2,000	MD	1
Farmington	Davie	350	MD	1
Glade Valley	Alleghany	1,200	MD	1
Knotts Island	Currituck	300	BTK	2
Mount Airy South	Surry	700	MD	1
Mount Mitchell	Yancey	10,500	MD	1
Northwest Eden	Rockingham	1,740	MD	1
Pilot Mountain	Stokes	6,600	MD	1
Zionville	Watauga	2,300	MD	1

Treatment type: MD – Mating disruption (pheromone flakes); BTK – a bacterial pesticide used in the control of larvae.

2019 Gypsy moth trap catches by county.

County	Traps Set	Positive Traps	Moths Caught
Alamance	176	3	3
Alexander	78	1	1
Alleghany	181	18	32
Anson	148	0	0
Ashe	304	4	4
Avery	73	4	4
Beaufort	203	0	0
Bertie	309	1	1
Bladen	260	1	1
Brunswick	243	1	2
Buncombe	180	4	5
Burke	161	9	13
Cabarrus	103	0	0
Caldwell	142	5	6
Camden	138	3	3
Carteret	106	0	0
Caswell	271	26	30
Catawba	122	0	0
Chatham	201	0	0
Cherokee	96	0	0

County	Traps Set	Positive Traps	Moths Caught
Chowan	82	0	0
Clay	40	0	0
Cleveland	134	2	2
Columbus	266	0	0
Craven	151	0	0
Cumberland	187	4	4
Currituck	198	13	223
Dare	216	7	25
Davidson	167	0	0
Davie	102	6	14
Duplin	234	2	2
Durham	119	3	3
Edgecombe	149	0	0
Forsyth	206	8	8
Franklin	247	22	80
Gaston	111	0	0
Gates	267	22	28
Graham	35	0	0
Granville	380	14	15
Greene	75	0	0

County	Traps Set	Positive Traps	Moths Caught
Guilford	267	5	5
Halifax	452	7	7
Harnett	171	0	0
Haywood	121	3	6
Henderson	114	0	0
Hertford	228	3	5
Hoke	108	0	0
Hyde	126	0	0
Iredell	176	1	1
Jackson	103	0	0
Johnston	230	8	9
Jones	73	0	0
Lee	72	0	0
Lenoir	108	0	0
Lincoln	87	0	0
Macon	83	0	0
Madison	110	0	0
Martin	126	0	0
McDowell	101	7	12
Mecklenburg	169	1	1
Mitchell	60	1	1
Montgomery	127	1	1
Moore	206	6	6
Nash	170	6	6
New Hanover	63	0	0
Northampton	359	5	5
Onslow	145	0	0
Orange	178	2	2
Pamlico	86	0	0
Pasquotank	148	1	1

County	Traps Set	Positive Traps	Moths Caught
Pender	206	2	3
Perquimans	146	1	1
Person	263	0	0
Pitt	184	0	0
Polk	66	1	1
Randolph	220	2	2
Richmond	134	8	9
Robeson	272	4	4
Rockingham	499	41	69
Rowan	150	0	0
Rutherford	167	3	4
Sampson	273	2	2
Scotland	87	4	4
Stanly	116	0	0
Stokes	493	68	101
Surry	492	53	71
Swain	45	1	1
Transylvania	65	0	0
Tyrrell	54	1	1
Union	183	0	0
Vance	248	6	9
Wake	249	4	4
Warren	317	5	5
Washington	83	0	0
Watauga	184	8	34
Wayne	166	0	0
Wilkes	432	23	25
Wilson	118	0	0
Yadkin	189	7	9
Yancey	83	23	83
Total	17612	507	1019

For updates on gypsy moth treatments, visit the Gypsy Moth Program website at <http://www.ncagr.gov/plantindustry/Plant/entomology/GM.htm>

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