

Farm Bill Survey Report

Year:	2017
State:	Washington
Cooperative Agreement Name:	Farm Bill: Asian Defoliating Moth Survey
Cooperative Agreement Number:	FAIN: AP17PPQFO000C303
Project Funding Period:	June 1, 2017 – May 31, 2018
Project Report:	Farm Bill Survey Report
Project Document Date:	August 23, 2018
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Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Annual Accomplishment Report	<input checked="" type="checkbox"/>

- A. Write a brief narrative of work accomplished. Compare actual accomplishments to objectives established as indicated in the work plan. If reporting on a combined surveys work plan, report accomplishments by survey. When the output can be quantified, a computation of cost per unit is required when useful.*

Objectives Summary - The primary objective of the Asian Defoliating Moth survey is to protect Washington State's natural and agricultural resources. The survey is integral to the success of WSDA's efforts to keep Asian defoliating moths from finding a permanent home in Washington State. Early detection is critical in preventing establishment through the timely implementation of an eradication program. When these populations are identified at an early stage, the task of eradication is less costly and greatly increases the chances for a successful eradication.

Accomplishments Summary – A total of 7,505 traps were deployed to monitor for introductions of Asian gypsy moth (AGM) (*Lymantria dispar asiatica*), Siberian moth (*Dendrolimus superans sibiricus*), pine-lappet (*Dendrolimus pini*), rosy gypsy moth (*Lymantria mathura*), and nun moth (*Lymantria monacha*) at Washington State's primary ports of entry for pacific-rim shipping as well as waterways of the Puget Sound and the Columbia/Snake River system. No target pests were found in 2017.

Figure 1. DETECTION TRAP PLACEMENT FOR ASIAN GYPSY MOTH IN WASHINGTON STATE

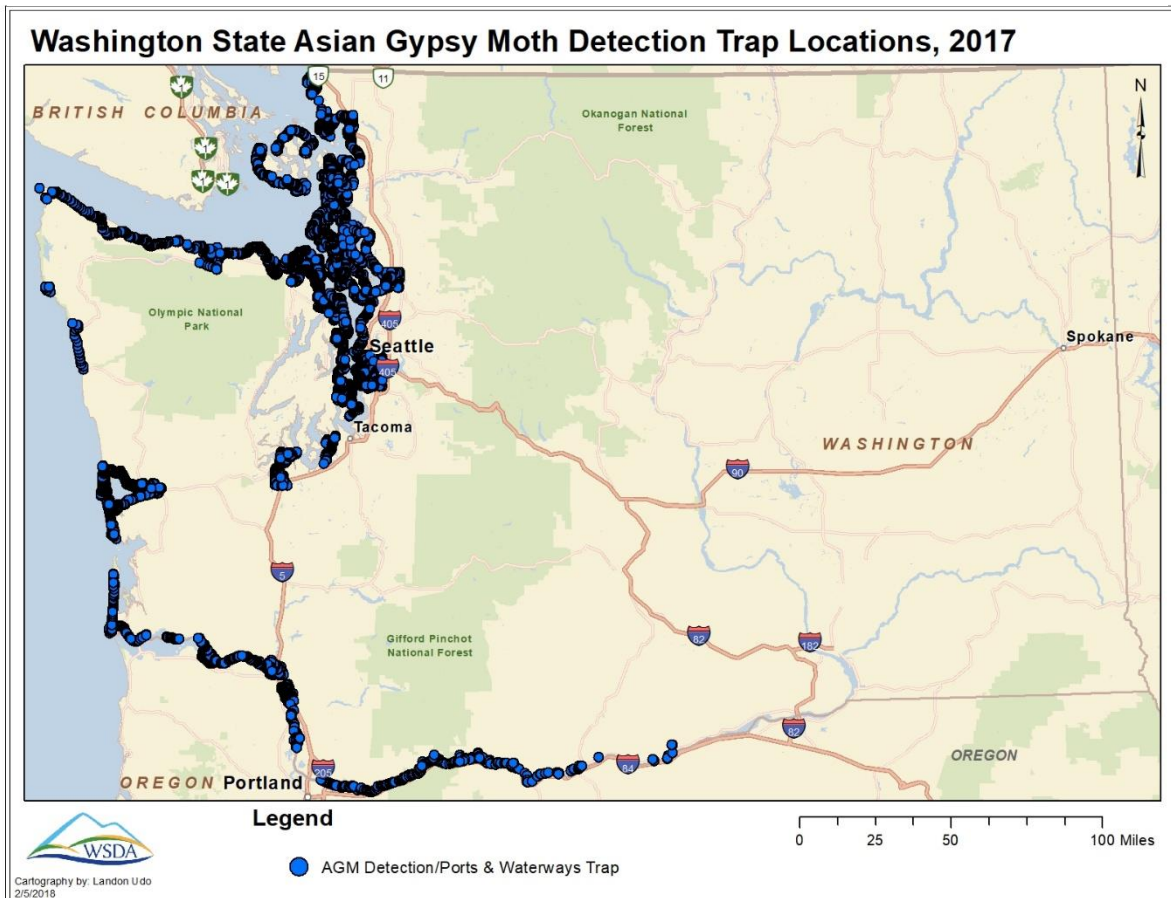


Figure 2. DETECTION TRAP PLACEMENT FOR SIBERIAN, PINE-LAPPET, NUN AND ROSY MOTH IN WASHINGTON STATE



Funding Summary - All gypsy moth survey activities in Washington State (EGM Detection, EGM Delimiting, AGM Detection, AGM Delimiting, and Asian Defoliators) are combined in order to efficiently use all available resources. Funding and trap numbers for all surveys statewide have been combined to calculate an accurate cost per unit.

Total Gypsy Moth Funding Amount, 2017	Total Number of Traps for all Gypsy Moth Surveys, 2017	Approximate Cost Per Unit, 2017
\$796,079	30,758	\$25.88/trap

1. Survey methodology (trapping protocol):

Asian Gypsy Moth Detection: a total of 4,906 AGM detection traps were deployed in 2017. AGM detection traps were placed at each of the 11 deep water marine ports as well as along the Columbia-Snake River system. The higher risk ports of Seattle and Tacoma had a trap density of 25 per square mile for the first 2 miles and 16 per square mile for the next 3 miles. However, most of the Port of Tacoma was covered by the AGM delimiting traps this year. The remaining smaller/lower risk ports had a trap density of 9 per square mile for the first 2

miles and 4 per square mile for the next 3 miles. Traps were deployed along the Columbia River system at 4 traps per linear mile where host material is present.

The AGM detection traps captured 2 moths in Island County; DNA genotyping confirmed that the moth was of the North American variety of EGM, *Lymantria dispar dispar*.

No AGM were captured in 2017.

	Common Name	Scientific Name	Survey Method
Pest:	Asian gypsy moth	<i>Lymantria dispar asiatica</i>	Paper Delta Trap, Green

	# of Traps	
Target Species	Proposed	Actual
Asian gypsy moth	5,000	4,906

Number of Counties:	19
Counties:	Clallam, Jefferson, Grays Harbor, Pacific, Wahkiakum, Cowlitz, Clark, Skamania, Klickitat, Kitsap, Mason, Thurston, Pierce, King, Snohomish, Island, Skagit, Whatcom, San Juan

Asian Defoliating Moth Detection: a total of 2,599 traps were deployed to monitor for four species of concern: Siberian silk moth (*Dendrolimus sibiricus*), Pine-tree lappet (*Dendrolimus pini*), rosy gypsy moth (*Lymantria Mathura*), and nun moth (*Lymantria monacha*).

Pine-tree lappet and Siberian silk moth: monitoring was conducted using the approved method of a modified milk carton trap with *Dendrolimus pini*/*Dendrolimus sibiricus* lure and a DDVP strip. A total of 1,092 traps were deployed in 2017. Traps were monitored on a regular two-week cycle and removed by the end of September.

Rosy gypsy moth: monitoring was conducted using the approved method of a wing trap baited with the *Lymantria mathura* lure. A total of 409 traps were deployed in 2017. Traps were monitored on a regular two-week cycle and removed by the end of September.

Nun moth: monitoring was conducted using the approved method of orange delta traps with the ends left open and baited with the *Lymantria monacha* lure. A total of 1,098 traps were deployed in 2017. Traps were monitored on a regular two-week cycle and removed by the end of September.

	Common Name	Scientific Name	Survey Method
Pest:	Siberian moth	<i>Dendrolimus sibiricus</i>	Milk Carton Trap
	Pine-lappet	<i>Dendrolimus pini</i>	Milk Carton Trap
	Rosy gypsy moth	<i>Lymantria mathura</i>	Paper Wing Trap
	Nun moth	<i>Lymantria monacha</i>	Paper Delta Trap, Orange

	# of Traps	
Target Species	Proposed	Actual
Siberian moth/Pine-lappet	1,300	1,092
Rosy gypsy moth	400	409
Nun Moth	1,300	1,098
Total Traps	3,000	2,599

Number of Counties:	10
Counties:	Clallam, Grays Harbor, Cowlitz, Clark, Thurston, Pierce, King, Snohomish, Skagit, Whatcom

2. Survey dates:

	Proposed	Actual
Survey Dates:	June 6 – September 29	June 5 – October 25
Trap Install:	June 6 – July 10	June 5 – July 18
Trap Inspection:	July 10 – August 31	July 5 – September 21
Trap Removal:	September 1 – September 28	September 5 – October 25

3. Benefits and results of survey:

All traps installed and inspected by Washington State Department of Agriculture staff were negative for the target pests of concern.

	Positive	Negative	Total Number
Total Traps	0	7,505	7,505

Two AGM detection traps located in Island County were positive for *Lymantria dispar dispar*. One Nun moth detection trap located in Whatcom County was positive for *Lymantria dispar dispar*.

4. Database submissions:

All survey data was entered in NAPIS on January 3 and January 8, 2018.

B. If appropriate, explain why objectives were not met.*

All objectives of the survey were met by the end of the award, May 31, 2018.

C. Where appropriate, explain any cost overruns or unobligated funds in excess of \$1,000. *

**indicates information is required per 7 CFR 3016.40 and 7 CFR 3019.51*