

Section I.
Surveys of Invasive and Emerging Pests

**APPLE CLEARWING MOTH SURVEY IN WASHINGTON STATE AND
NORTHWESTERN WASHINGTON DETECTIONS, 2008**

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The first established population of the apple clearwing moth (ACM), *Synanthedon myopaeformis* Borkhausen (Lepidoptera: Sesiidae) (Figure 1) in North America was identified in 2005, in British Columbia, Canada. Since then, distribution of ACM has been determined to include areas east and west of the Cascade Mountains in southern B.C. as well as in Whatcom County in Northwestern Washington State, the first U.S. occurrence of this exotic species.

ACM is a European pest of apple and other Rosaceaeous trees, damaging host plants via larval feeding in the bark on the trunk and branches. Larval development usually takes two years in our climate, and attacks are usually associated with entry sites around pruning wounds, mechanical damage, or around graft unions. Larval frass is kept in larval galleries (not extruded) and external signs of infestation may be inconspicuous.

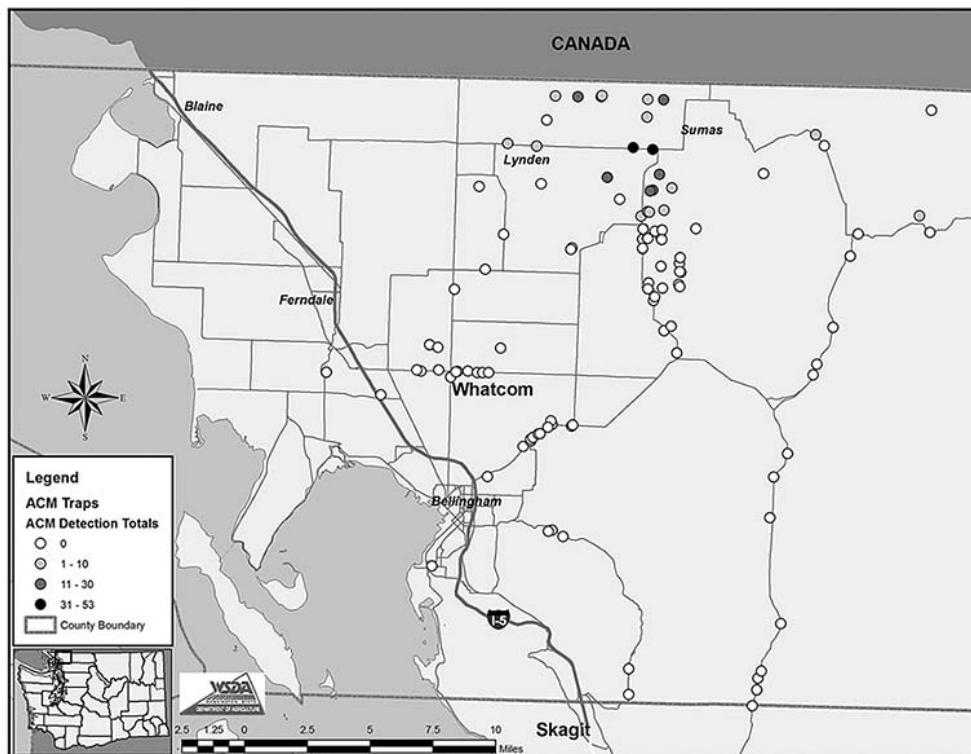
In 2008, two USDA APHIS Cooperative Ag Pest Survey (CAPS) funded surveys were conducted to detect ACM (if present) in Okanogan County in Eastern Washington, delimit the extent of the currently infested area in Northwestern Washington, and survey commercial nurseries statewide that imported foreign apple stock in recent years. Pheromone-traps, consisting of Pherocon P2-type (diamond) sticky-traps baited with peach tree borer lure were used at a total of 588 sites (Table 1.) Additionally, a small-scale test of alternate lure formulations provided by Ag. Canada and Scentry Inc. was conducted at 15 sites in the Whatcom County infested area (Table 2.).

Table 1. 2008 ACM Traps

County	# of Trap Sites
Whatcom	115
Skagit	136
Snohomish	60
King	60
Okanogan	52
Douglas	6
Grant	110
Franklin	12
Yakima	37
Survey Total	588

No ACM were detected in Okanogan County or elsewhere in Eastern Washington and in Western Washington only Whatcom County had ACM collections, in the north-eastern portion, west of the Cascade foothills (Figure 1).

Figure 1. Whatcom County Apple Clearwing Moth Collections, 2008



Catch numbers in the 4-way lure comparisons showed promising results for the Scentry lures, as both types captured more ACM than the USDA (Otis) or Ag. Canada 2x peach tree borer lures

(Table 2). The Scentry lures consisted of proprietary blends of the following components in Fibertape dispensers;
CWB: Z,Z-3,13-C18-Acetate and E,Z-3,13-C18-Acetate, and ACM: Z,Z-3,13-C18-Acetate and E,E-3,13-C18-Acetate.

Examination and sampling of unmanaged apple trees near ACM multiple-catch sites did find ACM larvae present around old graft unions, although the sites were more heavily infested with high populations of cherry bark tortrix (CBT) larvae, *Enarmonia formosana* Scopoli. CBT is another introduced pest of Rosaceous trees, first found in Whatcom County in 1991, and at all sites where ACM larvae were found, CBT larvae numbers were much higher than ACM (more than 30 to 1).

Table 2. ACM Lure Tests

Pheromone Lure	Total ACM Trapped
Otis ACM (PTB)	11
Scentry CWB	45
Scentry ACM	38
Canada ACMx2 (PTB)	4