

North American Plant Protection Organization Organización Norteamericana de Protección a las Plantas MEXICO - USA - CANADA Orgyia anartoides



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### Progress Report 2019

### Lymantriids Expert Group

Developing a NAPPO Science and Technology Document on the risks associated with Lymantriids of potential concern to the NAPPO region, identifying potential species and pathways of concern

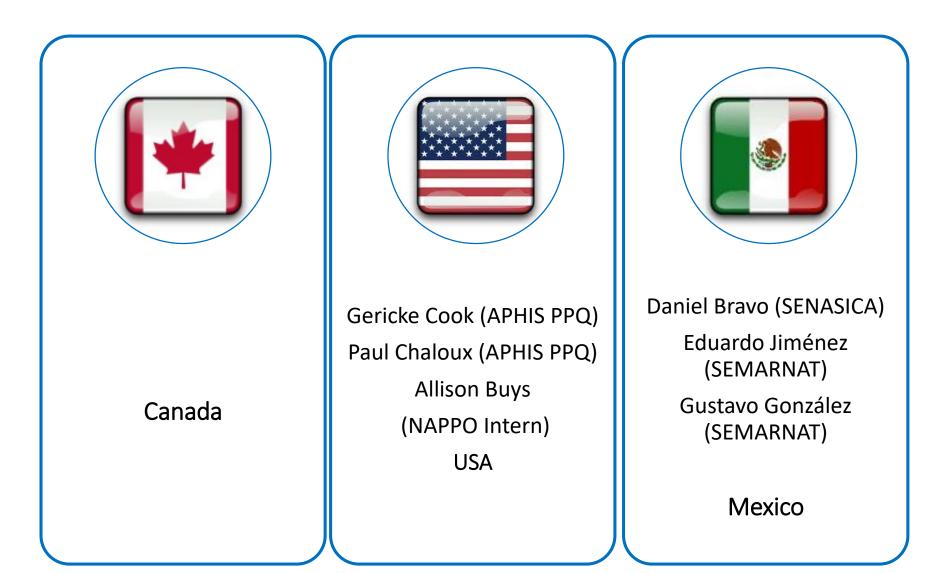
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NAPPO Technical Director 42<sup>nd</sup> NAPPO Annual Meeting, Montreal, Canada

#### 2019 NAPPO Expert Group Members



#### Acknowledgments



## Objective

Develop a NAPPO S&T document on the risks associated with lymantriids of potential concern to the NAPPO region, identifying potential species and pathways of concern

### Deliverables

- 1. Generate a set of pest risk analysis data sheets for Lymantriid species of concern to the NAPPO region
- 2. Draft the Science and Technology document
- 3. Provide data to the NAPPO AGM EG for potential expansion to the AGM project and revision of RSPM 33 (*Guidelines for regulating the movement of ships and cargo from areas infested with the Asian Gypsy Moth*)

## Approach

Pest Risk Assessment: Find a fast and effective method to generate PRAs on large numbers of lymantriid species.

> 2700 species from initial

search

#### 1. Distribution:

Hosts:

- Python script to web crawl Finnish IT
  Center for Science website to generate
  a species distribution database
- NAPPO countries provided a list of hosts of economic concerns.
- Host list is cross referenced against the lepidopteran HOST plant database to generate a TARGET LIST OF LYMANTRIIDS SPECIES FOR ANALYSIS (n~ 200)

## Approach

### 3. Biology and pathways:

- Attraction to light
- Known reports of contaminant during overwintering stage
- Known to feed on other native NAPPO region hosts
- Causes damage in native region, sustaining economic or ecological losses
- Ballooning
- /Females capable of flight
- Overwintering stage
  - Long distance dispersal capability
  - Allergenic properties

### Sample datasheet for PRA

Question	Answer	Score	Comments/References
Does this species occur within similar climate types to the NAPPO region?	Yes		Potential Climate Match: Canada: 74.49%, Mexico: 12.42%, United States: 66.40%
			Climate Types Affected: Csc, Cwc, Dfa, Dfb, Dfc, Dsb, Dwa, Dwb, Dwc (MAF, 2008; Peel et al., 2007; Umeya and Okada, 2003). Note: these Koppen-Geiger climate types are based on those present in the majority of its distribution.
Known to feed on forests and/or crops of economic concern to the NAPPO region.	Yes		Orgyia thyellina is a polyphagous moth that feeds on agricultural crops and economically important forest trees in the NAPPO region including: <i>Glycine</i> max (soybean), Malus domestica (apple), Phaseolus vulgaris (bean), Prunus ameniaca (apricot), Prunus salicina (plum), Prunus spp. (cherry), and Pyrus spp. (pear) (NASS, 2014; Umeya and Okada, 2003).
Adult female moths attracted to light	Yes	1	MAF, 2008
Reports of contaminant during pest's overwintering stage	Yes	2	<i>Orgyia thyellina</i> egg masses have been intercepted in used vehicles from Japan at New Zealand ports (Armstrong et al., 2003).
Known to feed on other native NAPPO region hosts	Yes	1	<i>Humulus lupulus</i> is a host and is native to Canada and the United States (NRCS, 2017; Umeya and Okada, 2003).
Reported to cause damage in native range, causing economic or environmental losses	Uncertain	0	<i>Orgyia thyellina</i> is a horticultural and forest pest (Plant Health Australia, No Date). However specific information on <i>O. thyellina</i> 's pest significance in its native range is lacking (MAF, 2008) and we rated it uncertain.

### Progress during 2019



- Pest risk assessment work on selected Lymantriid species has concluded.
- 80% of data sheets have been formatted and organized.
- A total of 80 datasheet ready for analysis.
- Progress done in developing the Science and Technology document. Completion of first draft expected at the end of 2019.

### **Conclusions, next steps for 2020**

### Complete

• S&T document.

### Share

 Data with the NAPPO AGM Expert Group for consideration to possible amendments to RSPM 33 with Lymantriid species other than AGM.

# Thank you!