Invasive Pest Pathway Assessment and Survey Targeting

Christopher Pierce, Ph.D.
Pest Survey Specialist – Missouri & Iowa

United States Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
**Mission:**
Safeguard U.S. agricultural and natural resources from risks associated with the entry, establishment, or spread of plant pests and diseases, as well as invasive and harmful weeds.

**Responsibilities:**
- Pest surveillance, detection, and identification
- Pest eradication and management
- Regulation and certification of plants and plant products for import and export
- Crop biosecurity and emergency response
What is it?

- **Suspect Samples/ Presumptive Positives**
  - State Departments of Agriculture
  - Cooperating Land Grant Universities
  - National Plant Diagnostic Network (NPDN)
  - Private Laboratories

- **Confirmatory Identification**
  - PPQ National Identification Service (NIS)
    - National Specialists
    - ARS Systematic Entomology Laboratory (SEL)
  - PPQ Center for Plant Health Science and Technology (CPHST)
Should we take action?

- Known Potential Pest
  - Select Agent
  - Eminent threat
  - Cooperative Agricultural Pest Survey target list
  - Response Guideline Available
- New Pest Advisory Group
- Delimiting Survey
- Trace Back/Trace Forward Investigations
What Actions Should We Take?

- Cooperative Effort
- Review Response Guidelines
- Convene Science Panel
- Consider Options
  - Eradication
  - Suppression
  - Containment
- Determine Goal and Develop Strategy

Detection and ID
Assessment
Formulating a strategy
Obtaining support
Implementation
Clearing the Way

- Roles and Responsibilities
- Legal Authorities
- Personnel and Resources
- Rulemaking Process
- Environmental Issues
- Budget Formulation

Detection and ID
Assessment
Formulating a strategy
Obtaining support
Implementation
Show Me The Money

Primary Sources
- Annual Regional Allocations
- APHIS Contingency Funds
- USDA Transfer of Funds

Type of Funding
- Emergency – Cost Share
- Appropriated

Instruments
- Cooperative Agreements
- Detailed Financial and Work
- Plans
Initial Response – Organized Chaos

- Incident Command System
- Incident Management Teams
- ROSS – Resource Ordering System

Detection and ID
Assessment
Formulating a strategy
Obtaining support
Implementation
Components of Pest Programs

- Survey
- Identification/Diagnostics
- Regulatory
- Control
- Public Outreach
- Research
- Restoration
- Data Management
• National Survey
• Delimiting
• Monitoring
• Verification
2016 Trace forward – Furniture

- Contacted in April 2016
- Log furniture items from by a Minnesota company (Sportman’s guide)
- A longhorned beetle ID’d a Brown fir longhorned beetle, *Callidiellum villosulum* (Fairmaire)
- Eight customers in Missouri
- Worked in conjunction with MDA to coordinate pickup of material and destruction
2009 EAB Delimit Survey

- Project: Missouri USDA APHIS PPQ
- 716 purple EAB traps were set within an 8-mile radius of USACE Wappapello Lake - GRA
- Survey focused on lowland and riparian areas where ash is prominent
- Traps were placed from May 6th through June 9th
- 450 dd occurs in southern Missouri approximately the first week of April
- 1,500 dd occurs statewide in Missouri approximately the first week of July
- **Status** – Completed
- **Results** – No new finds of EAB
- **2010** – 908 traps set as of April 21, 2010
Wood Packaging Material Tool

USDA PERAL
(Plant Epidemiology and Risk Analysis Laboratory)
Data Behind the Tool

- Location of businesses that are high risk for pest entry on WPM
- High risk businesses determined by evaluation of EAN (Emergency Action Notification) data
- EAN data stored in AQAS (Agriculture Quarantine Activity System)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Article</th>
<th>EANs Pest interceptions (5 year average)</th>
<th>EANs Pest interceptions 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Machinery and Machine Parts</td>
<td>226</td>
<td>191</td>
</tr>
<tr>
<td>2</td>
<td>Metal Products and Raw Metals</td>
<td>131</td>
<td>154</td>
</tr>
<tr>
<td>3</td>
<td>Stone Products – Other Stone Products</td>
<td>56</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>Electronics and Electric Components</td>
<td>47</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>Glass and Glass Products</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>Pallets/Crates/Spools</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>Stone Products – Ceramic Tile</td>
<td>26</td>
<td>72</td>
</tr>
<tr>
<td>8</td>
<td>Plastic and Plastic Products</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>8</td>
<td>Stone Products – Granite Products</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Stone Products – Marble Tile</td>
<td>17</td>
<td>14</td>
</tr>
</tbody>
</table>
### Data Behind the Tool

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick, Stone, and Related Construction</td>
</tr>
<tr>
<td>Material Merchant Wholesalers</td>
</tr>
<tr>
<td>Cut Stone and Stone Product Manufacturing</td>
</tr>
<tr>
<td>Tile and Terrazzo Contractors</td>
</tr>
<tr>
<td>Wood Pallet and Containers</td>
</tr>
<tr>
<td>Metal Products</td>
</tr>
<tr>
<td>Machinery Manufacturing</td>
</tr>
<tr>
<td>Industrial Building Construction</td>
</tr>
<tr>
<td>Warehousing and Storage</td>
</tr>
<tr>
<td>Wood Products</td>
</tr>
</tbody>
</table>

![Map with various markers indicating different categories of businesses.](image)
There are a bunch, and probably some we haven’t thought of. But here are a few: