Leveraging Community Science to Complement Professional Field Surveys and Fill Data Gaps for Invasive Insects

2022 FEMC Conference – Burlington VT, Dec. 15th

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Monitoring for SLF in New York State

2018-2020

2021-2022
Agenda

1. Intro to SLF “Claim a grid square” project
2. Results from the project
3. Tips for engaging volunteers
4. Take home messages & applications to forest monitoring
Spotted Lanternfly Efforts

- NYS AGM leading efforts
- **PRISM network**, NYS OPRHP, NYS DEC, NYS DOT, NYC Parks, USDA-APHIS, IPM, and more

Volunteers can help fill the gaps!

Photo from Instagram: @diasavestheforest

SLF bag traps (Penn State Extension)
iMapInvasives is an online invasive species database and mapping system powered by NatureServe.

Natural resource professionals & community scientists use iMapInvasives in their work to protect natural resources from the negative impacts of invasive species in North America.
Volunteer SLF-TOH-iMap project

- We need more eyes on the ground!
- We need data in a centralized database (where AGM can review reports)

**We need trained iMapInvasives users to:**

1. Pick a location to survey
2. Check for SLF & TOH at multiple points throughout the year
3. Report presence and not-detected records to iMapInvasives

Claim this Location to Survey!
Volunteer SLF-TOH-iMap project

We need trained iMapInvasives users to:

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- High priority
- Sightings in new areas warrant follow-up action
- Can spread quickly

- Preferred host of SLF
- Widespread in Northeast
- Not generally going to be prioritized for removal
- Good place to check for SLF

Easier to find!
Volunteer SLF-TOH-iMap project

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**We need trained iMapInvasives users to:**

1. Pick a location to survey
2. Check for SLF & TOH at multiple points throughout the year
3. **Report presence and not-detected records to iMapInvasives**
Commitments from volunteers

Why are commitments important?

“Behavioural psychologists recognize that what people intend to do and what they actually do can be two different things. Although someone may intend to perform an action, it does not mean that they will. Behavioural psychologists call the phenomenon the intention-action gap.”

Ken Donnelly, https://www.beyondattitude.com/
Claiming a Grid Square

- AGM, Parks, DEC, NYNHP selected 1km grid squares across the state where volunteer survey efforts would be most helpful to complement statewide efforts
- Excluding areas where surveys aren’t needed (e.g. Staten Island), or that are being surveyed by AGM staff

Claim a grid square at nyimapinvasives.org/slf!

- ESRI Web App Builder
- ToH and SLF data displayed via iMap Web Map Service
- Sign-up form → layer hosted on ArcGIS Online edited to “Claimed”
“Claimed”

grid square

SLF not detected
Reports in 50/62 counties

- 2021: 169 grid squares with data
- 2022: 95 grid squares with data  (as of Sep 22)

2018-2020 SLF surveys

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<thead>
<tr>
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<th>Professionals</th>
<th>Volunteers</th>
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<tbody>
<tr>
<td>Presence</td>
<td>7</td>
<td>2</td>
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<tr>
<td>Not-detected</td>
<td>180</td>
<td>38</td>
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2021-2022 SLF surveys

<table>
<thead>
<tr>
<th></th>
<th>Professionals</th>
<th>Volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>137</td>
<td>239</td>
</tr>
<tr>
<td>Not-detected</td>
<td>438</td>
<td>2,397</td>
</tr>
</tbody>
</table>

SLF not-detected: 2018-20 vs. 2021-22

218 → 2,835 records
17% → 85% volunteer
Engaging volunteers

• Commitment – signing up, “claiming” a location

• Set up volunteers for success
  • Goals: concrete, achievable, and measurable
  • Webinar trainings (four in 2021, two in 2022) – recorded
  • Webpage with resources

• Reminders throughout the season

• Volunteers need to know they are part of something greater
  • Keep updated on progress of the project
  • Thank you email
  • *Rewarding participants*

• Collect feedback, integrate into program
Survey sent out to volunteers in 2021, highlights:
- Claiming a location was a motivating factor
- Goals were unclear

Changes in 2022
- Created 4 distinct “survey seasons”
- Goal – report presence/not-detected in 2 or more seasons
- Throughout year: reminders, scheduled around those seasons

Example

Please rate your overall experience

Positive or mostly positive
Mixed or neutral

2021: 200+ grid squares claimed, 169 had some data

2022: 171 claimed grid squares, # completed
- Spring: 24 completed, 34 partial
- Early Summer: 25 completed, 57 partial
- End of 2022: calculate for all 4 seasons
Applications for Forest Pest Monitoring

Adirondack Trail Adoption Maps for “Forest Pest Hunters” volunteer program

HWA (February – April)
• 114 Trails Adopted, 400+ iMap Observations

BLD (September – October)
• 33 Trails Adopted, 100+ iMap Observations

APIPP / TNC
adkinvasives.com
Community science offers concrete help to filling data gaps

- Claimable locations = concrete commitment
- Leverage existing volunteer networks

Start somewhere, improve each year

Collaboration between agencies, conservation partners (local → regional) and database managers is essential

“It would be an understatement if I said it was extremely useful, because not only are we getting many more reports in but it’s also enabling us to better direct our staff and other state staff.”

– Thom Allgaier, AGM
Acknowledgements

Spotted lanternfly grid square survey
• Signup Map:
  • Colleen Lutz (NYNHP)
  • John Marino (NYNHP)
• NYS Dept of Agriculture and Markets
  • Thom Allgaier
• NYS OPRHP
• NYS DEC
• PRISM network

Adirondack Trail Adoption Maps
• Adirondack Park Invasive Plant Program (APIPP); The Nature Conservancy
  • Zachary Simek, Rebecca Bernacki