Photo submitted to iMap by NYNJTC volunteer with record 1152072

Leveraging Community Science to Complement Professional Field Surveys and Fill Data Gaps for Invasive Insects
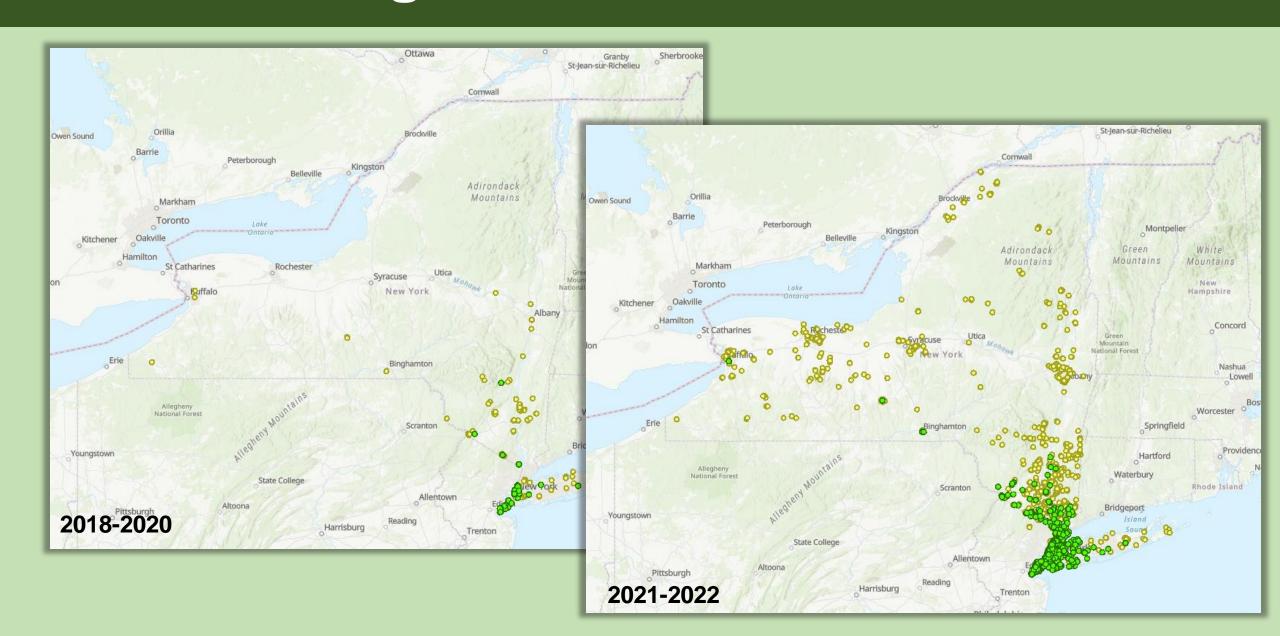
2022 FEMC Conference – Burlington VT, Dec. 15th

New York Natural Heritage Program

Mitchell O'Neill

Mitchell.ONeill@dec.ny.gov

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

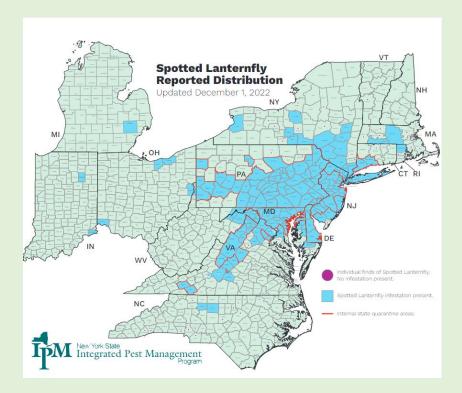4. Take home messages & applications to forest monitoring

Spotted Lanternfly Efforts

Record 1152072: Spotted lanternfly reported by a volunteer.

Photo from Instagram: @diasavestheforest

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

Spotted Lanternfly Reported Distribution
Updated December 1, 2022

Individual finds of Spotted Lanternfly. No infestation present.

Spotted Lanternfly infestation present.

Internal state quarantine areas.

New York State
Integrated Pest Management Program
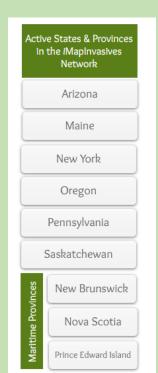

SLF bag traps (Penn State Extension)
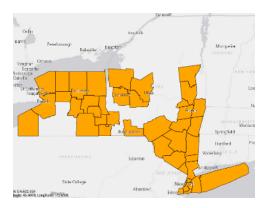

Volunteers
can help fill the gaps!

*i*MapInvasives

iMapInvasives is an online invasive species database and mapping system powered by NatureServe.
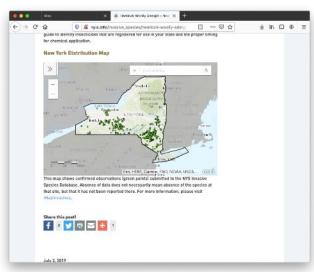
Natural resource professionals & community scientists use iMapInvasives in their work to protect natural resources from the negative impacts of invasive species in North America.

Species Distributions and Reports

Early Detection Alerts

Active States & Provinces in the iMapInvasives Network

Arizona

Maine

New York

Oregon

Pennsylvania

Saskatchewan

Maritime Provinces

New Brunswick

Nova Scotia

Prince Edward Island

iMapInvasives Network
Active Member
Inactive Member
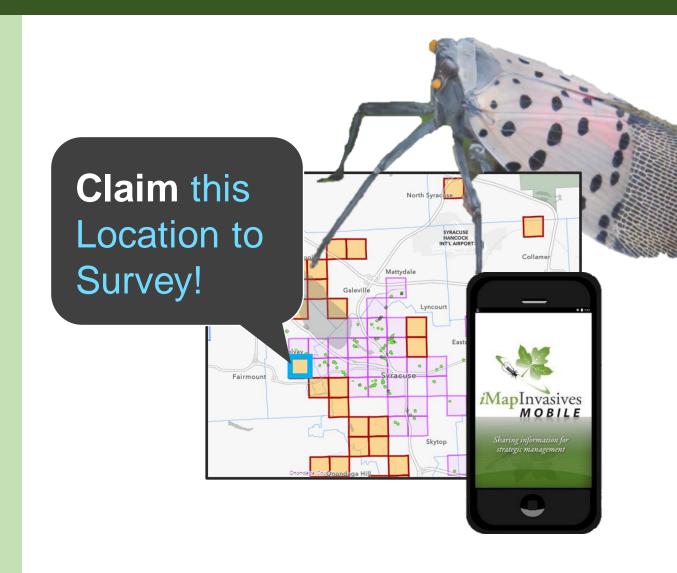

Web Map Services

Tracking Control Efforts and Results

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 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

Photo submitted by iMap Observer 24061

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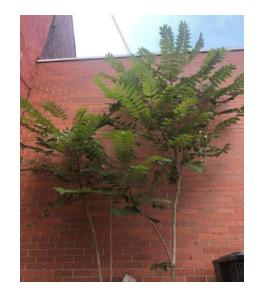- Can spread quickly

Photo submitted by iMap Observer 4550

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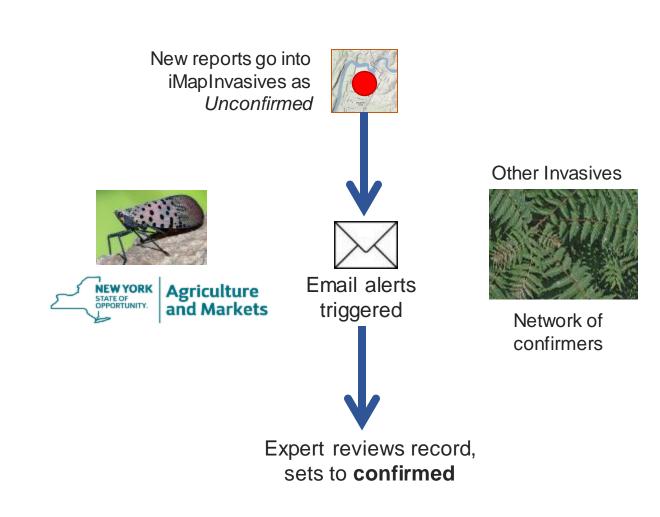- Good place to check for SLF

Easier to find!

Volunteer SLF-TOH-iMap project

- 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**

New reports go into iMapInvasives as *Unconfirmed*

Email alerts triggered

Expert reviews record, sets to **confirmed**

Other Invasives

Network of confirmers
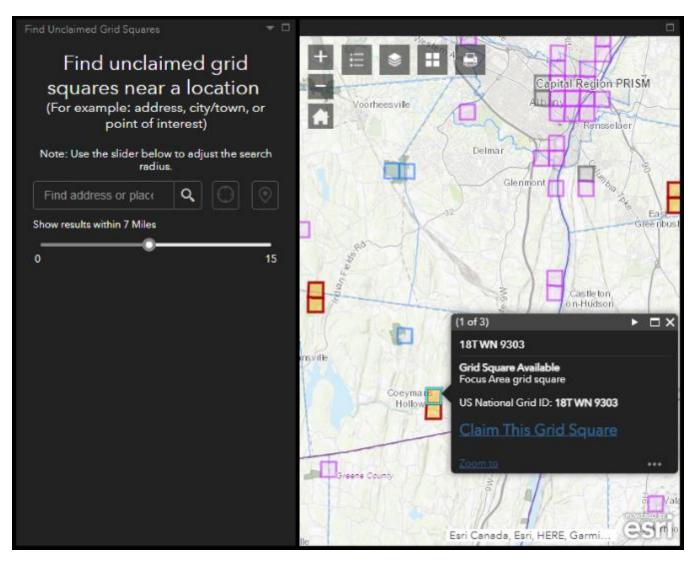
Commitments from volunteers

Ken Donnelly, https://www.beyondattitude.com/

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."

Claiming a Grid Square

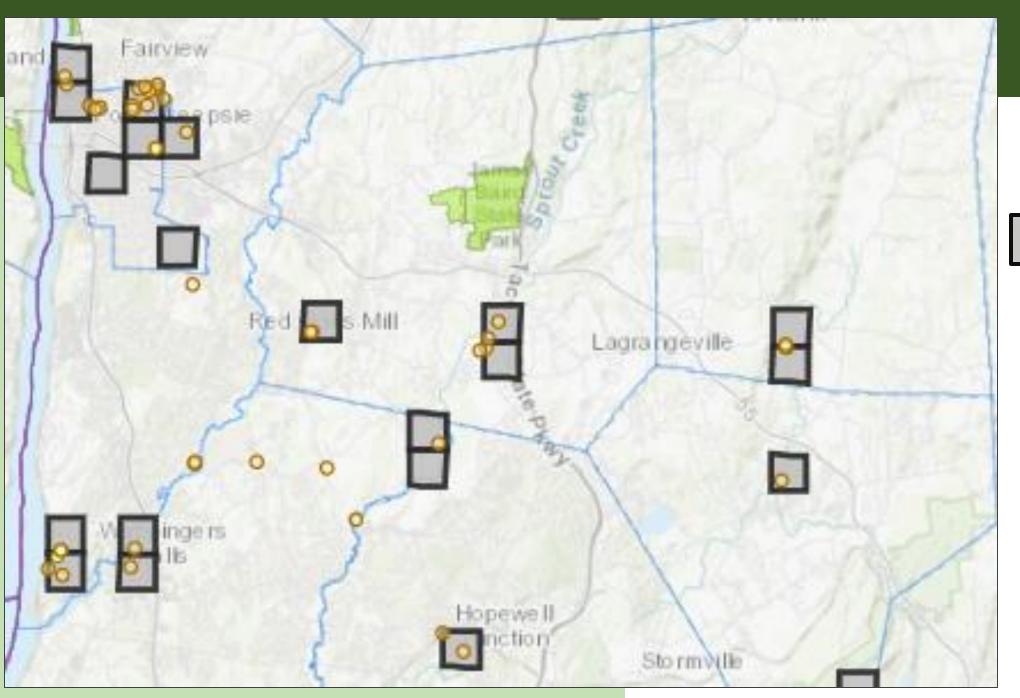*Claim a grid square at nyimapinvasives.org/slf!*

- 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
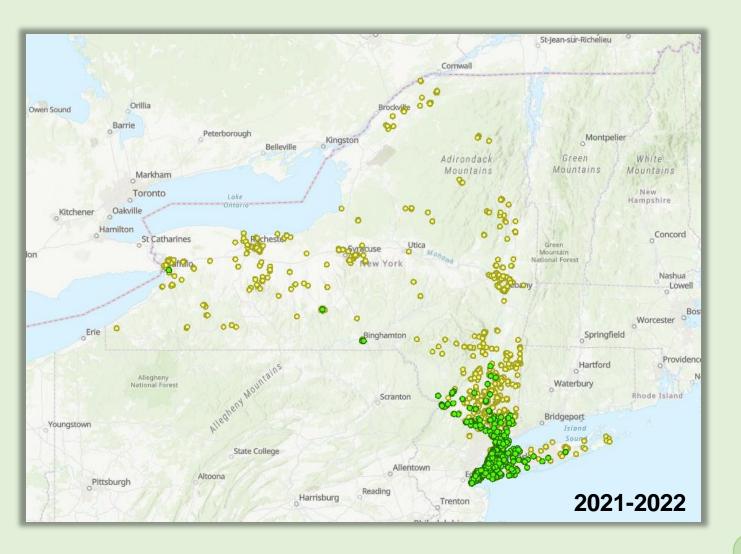

- *Focus grid squares* Selected by NYS conservation partners*
- *Grid squares with public access land*
- *Grid squares with confirmed TOH*

- 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

2021-2022

2018-2020 SLF surveys

	Professionals	Volunteers
Presence	7	2
Not-detected	180	38

2021-2022 SLF surveys

	Professionals	Volunteers
Presence	137	239
Not-detected	438	2,397

Reports in 50/62 counties

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

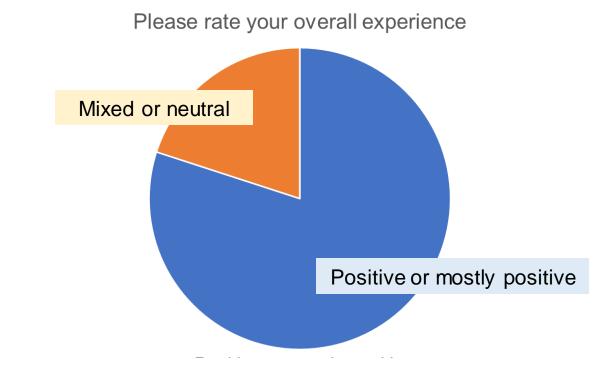**SLF not-detected: 2018-20 vs. 2021-22**
218 → 2,835 records
17% → 85% volunteer

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

Example

- 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
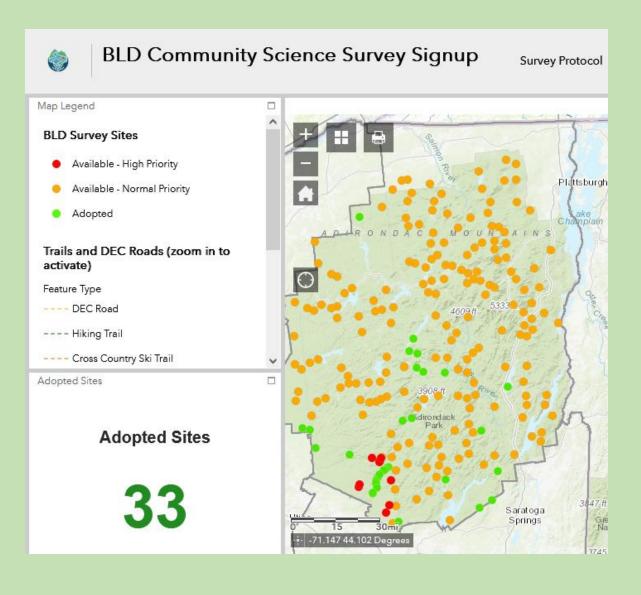 - Throughout year: reminders, scheduled around those seasons

Please rate your overall experience

Mixed or neutral

Positive or mostly positive

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

Take home messages

➢ 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

Mitchell O'Neill
Mitchell.ONeill@dec.ny.gov

nynhp.org   imapinvasives.org