

A photograph of a rural landscape. In the foreground, there is a field of young green plants in rows. To the left, a red pickup truck is parked. In the background, there is a large white barn and a house. The sky is blue with some clouds.

Blacklight Trapping of BMSB in New Jersey and Michigan

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- BMSB is a landscape pest
- Detect new populations
- Track spread
- Develop biofix
- Early season monitoring
- Management decision tool
- Blacklight traps
 - Capture night flying insects
 - Attractive to stink bugs as they disperse between hosts



Potential Use of Blacklight Traps

- 1. Detect new populations**
 - ~80 traps throughout NJ
 - Monitored May – October for key pests (ECB, CRW)

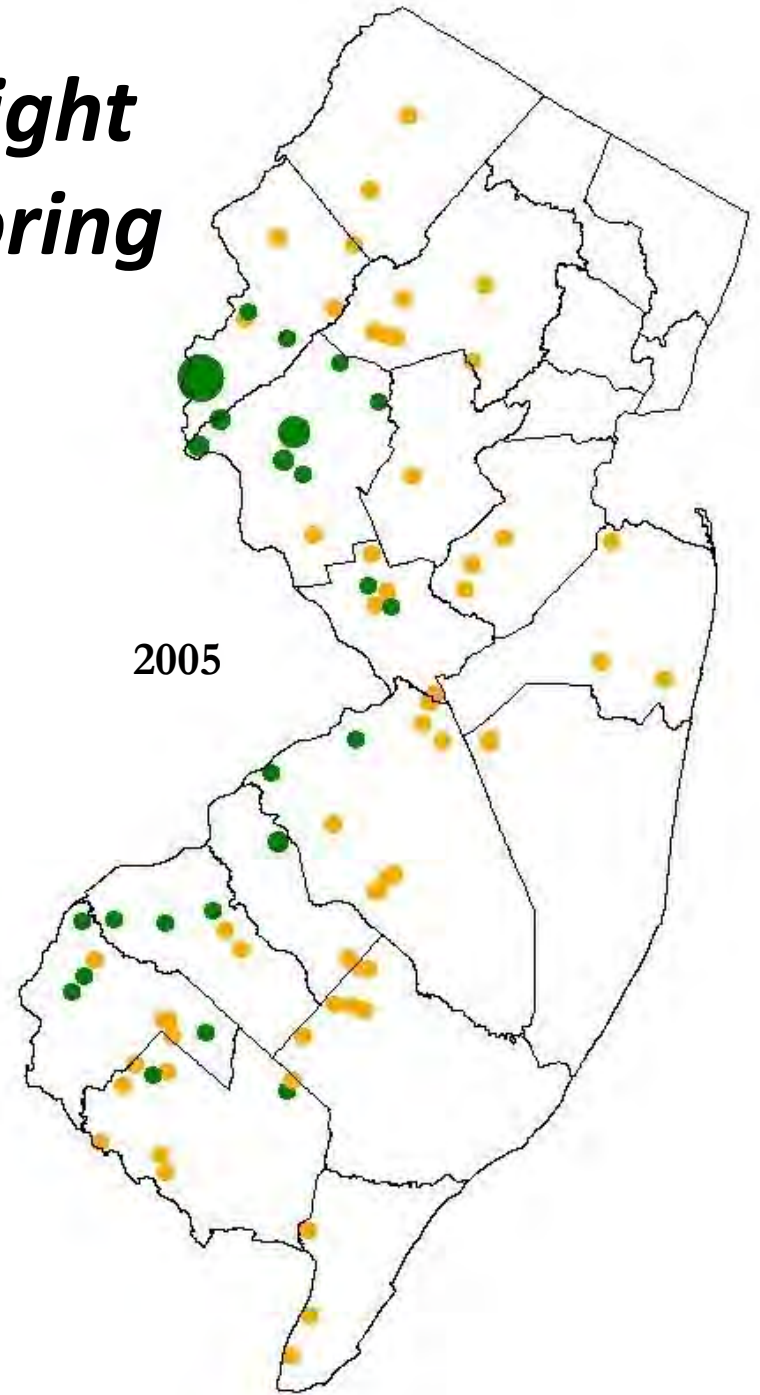
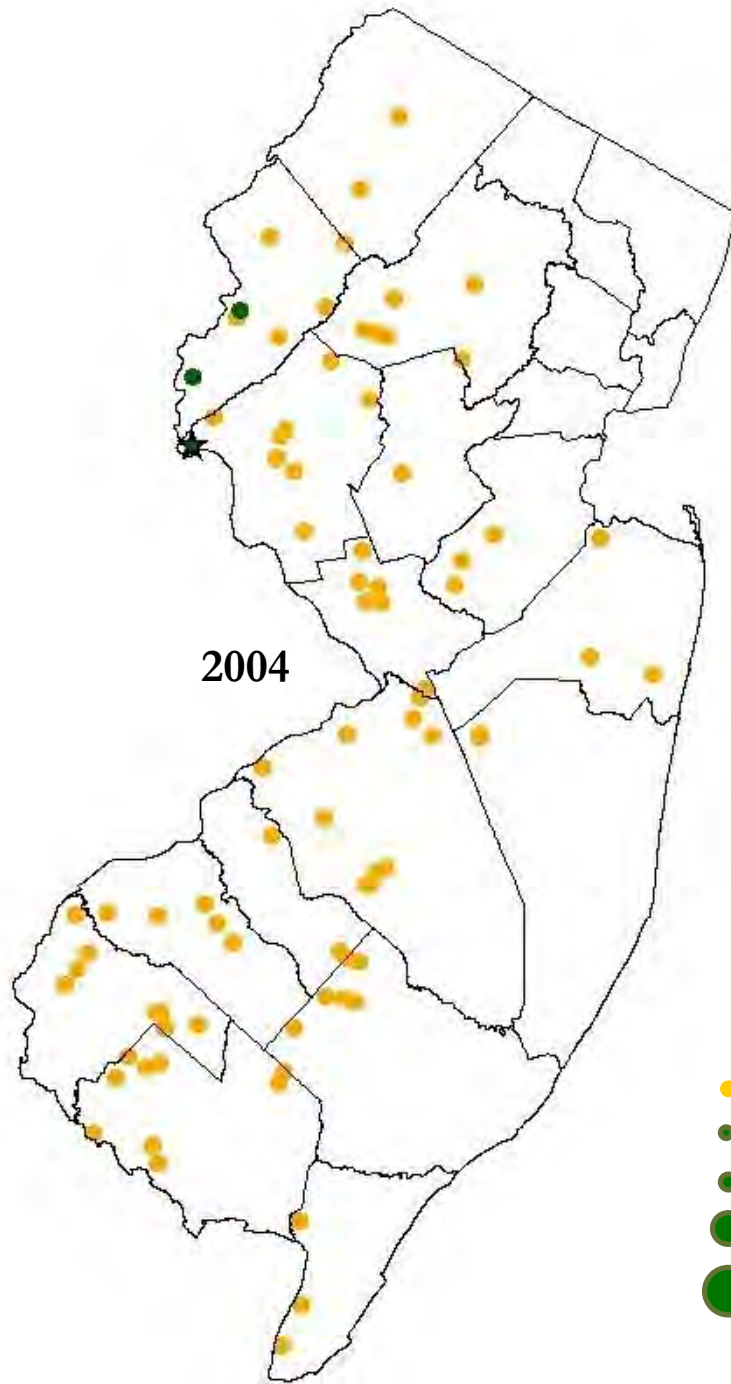
- 2. Track Spread**

- 3. Management decision tool**

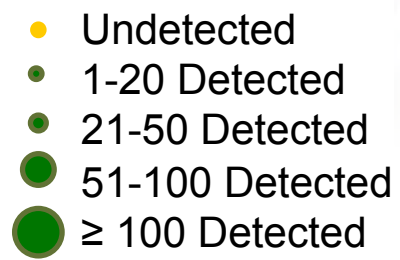
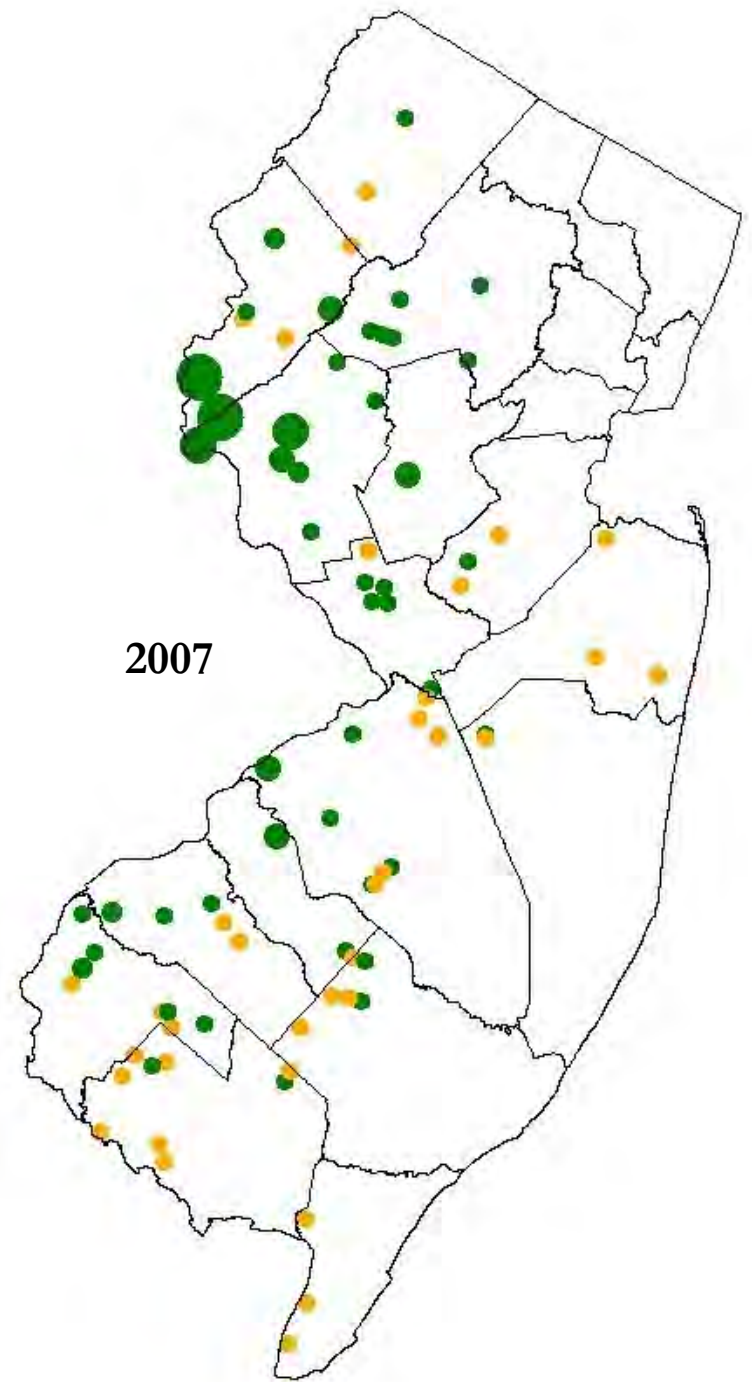
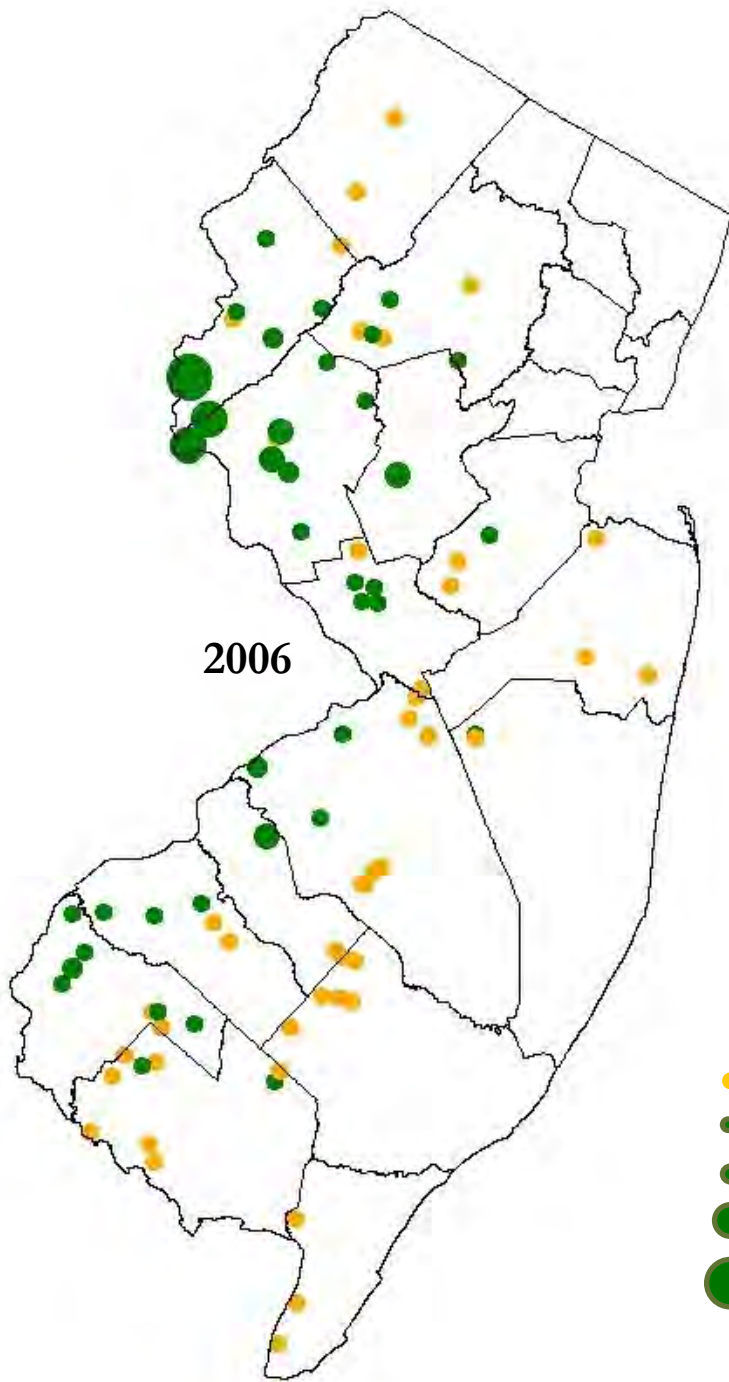
- 4. Develop biofix**

- 5. Early season monitoring**

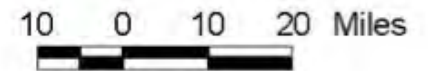
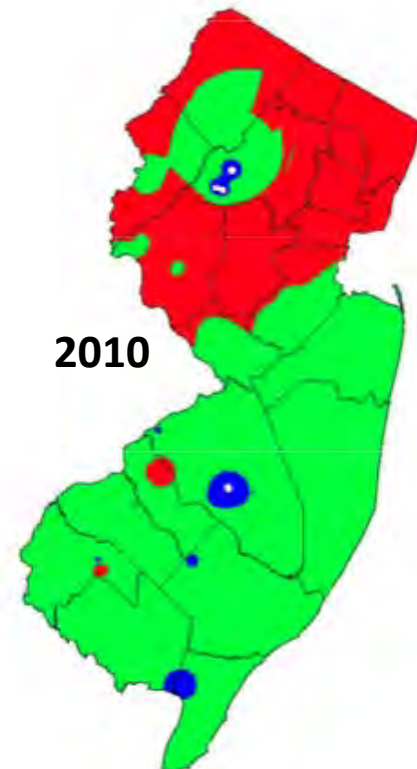
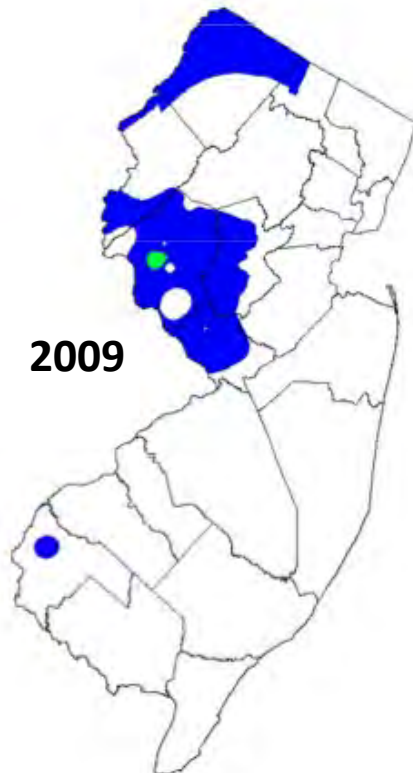
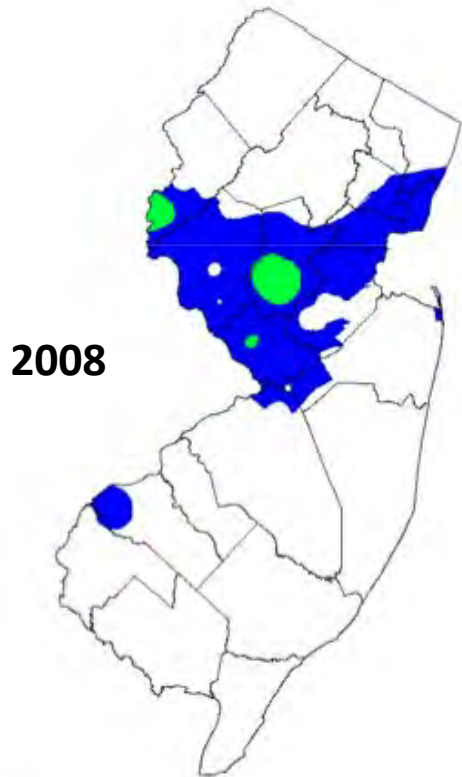
Blacklight Monitoring



- Undetected
- 1-20 Detected
- 21-50 Detected
- 51-100 Detected
- ≥ 100 Detected



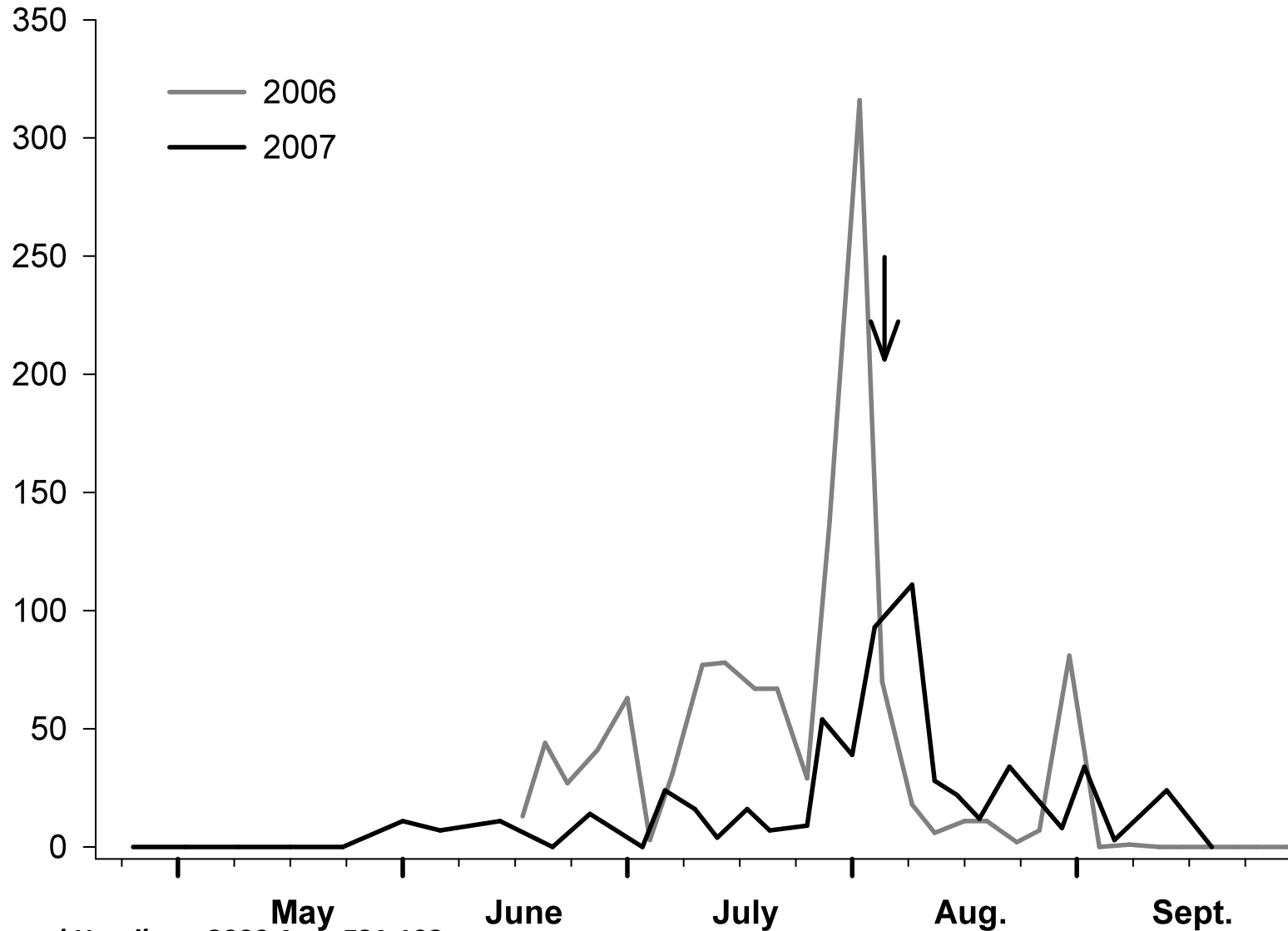
Average Weekly Captures



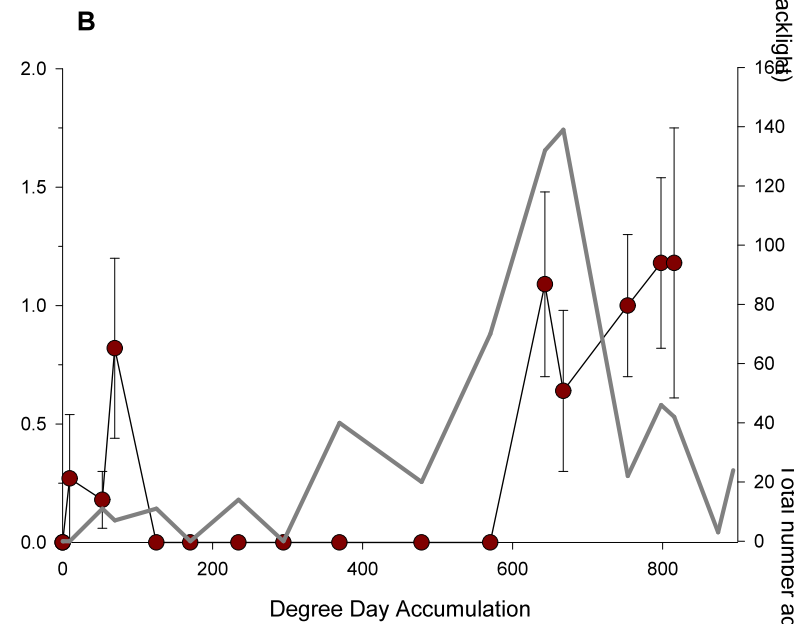
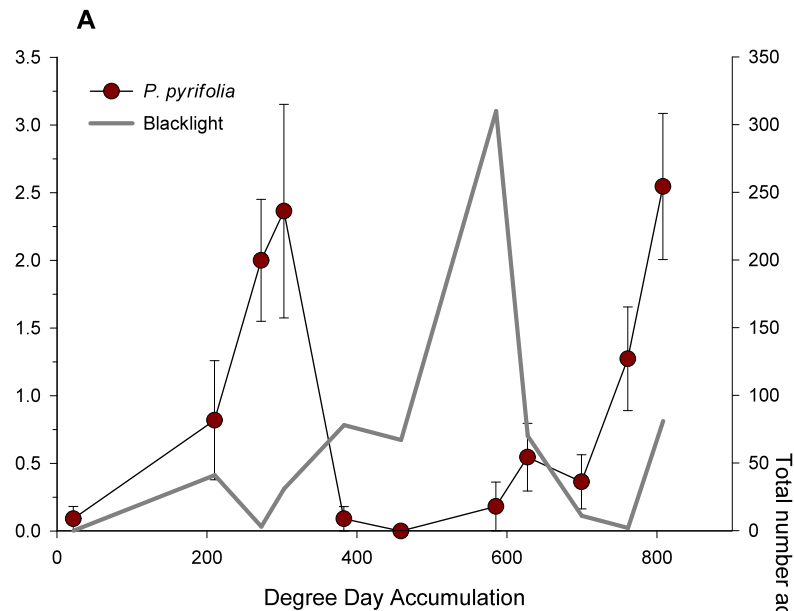
Potential Use of Blacklight Traps

1. Detect new populations
2. Track Spread
3. Management decision tool
- 4. Develop biofix**
- 5. Early season monitoring**

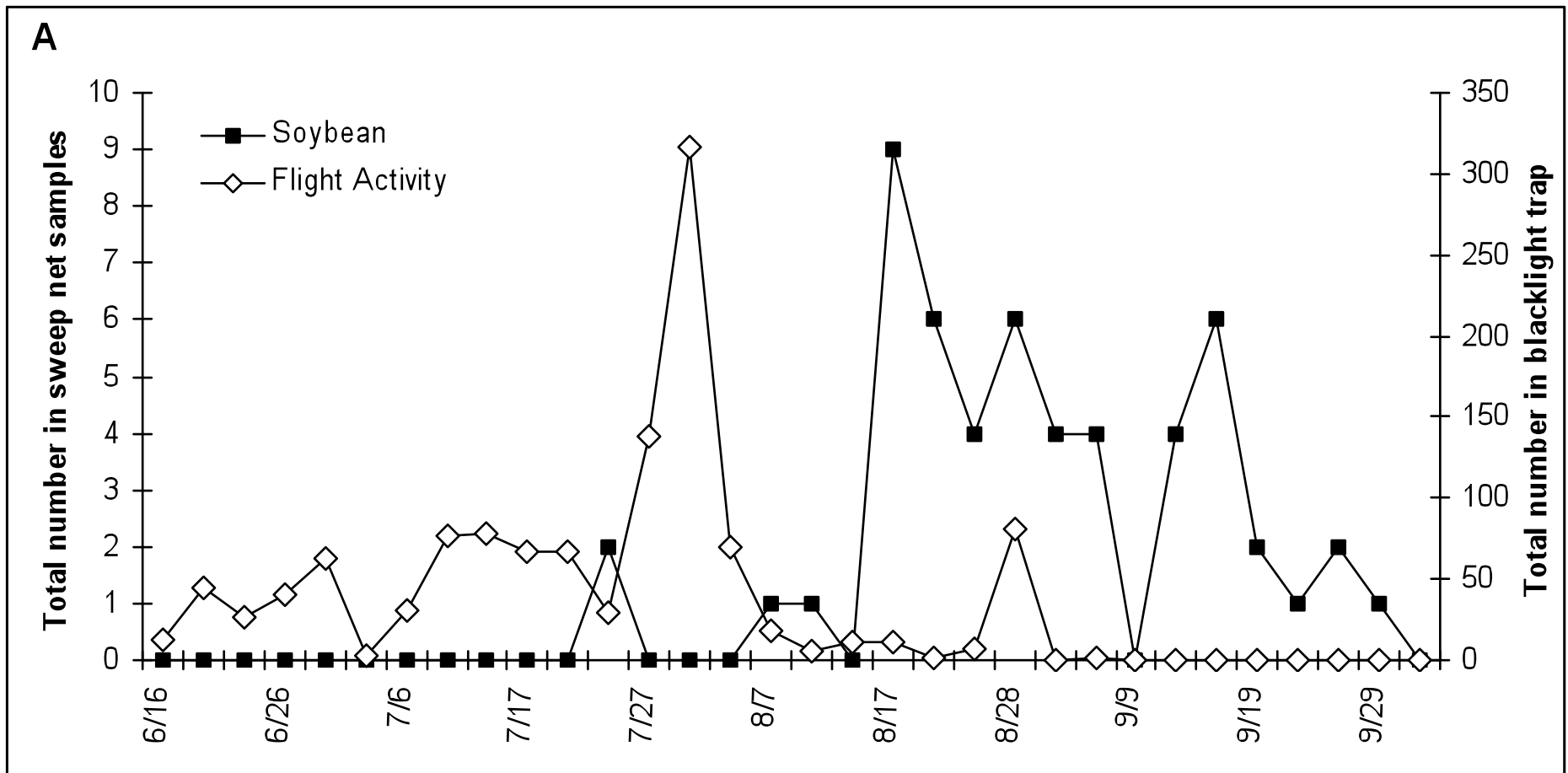
Seasonal Flight Activity



Seasonality in Tree Fruit vs. Blacklight



Comparison between Blacklight and Aggregation Trap in Soybean



Using Blacklight Traps for Monitoring

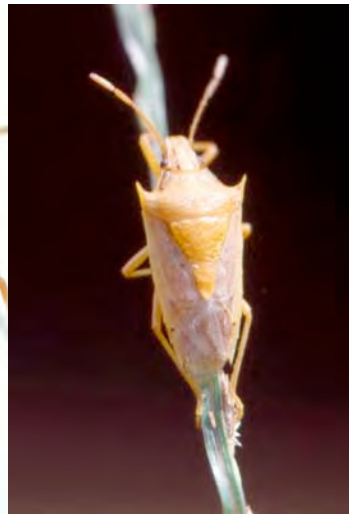
- We need to refine the biofix date
- Trap captures seem to coincide with first appearances in orchard
- Can be used to predict pest densities for a IPM program
- Can then apply Degree-Day model to predict peak population
- Used to time control applications against migrating adults

Use of Blacklight Traps

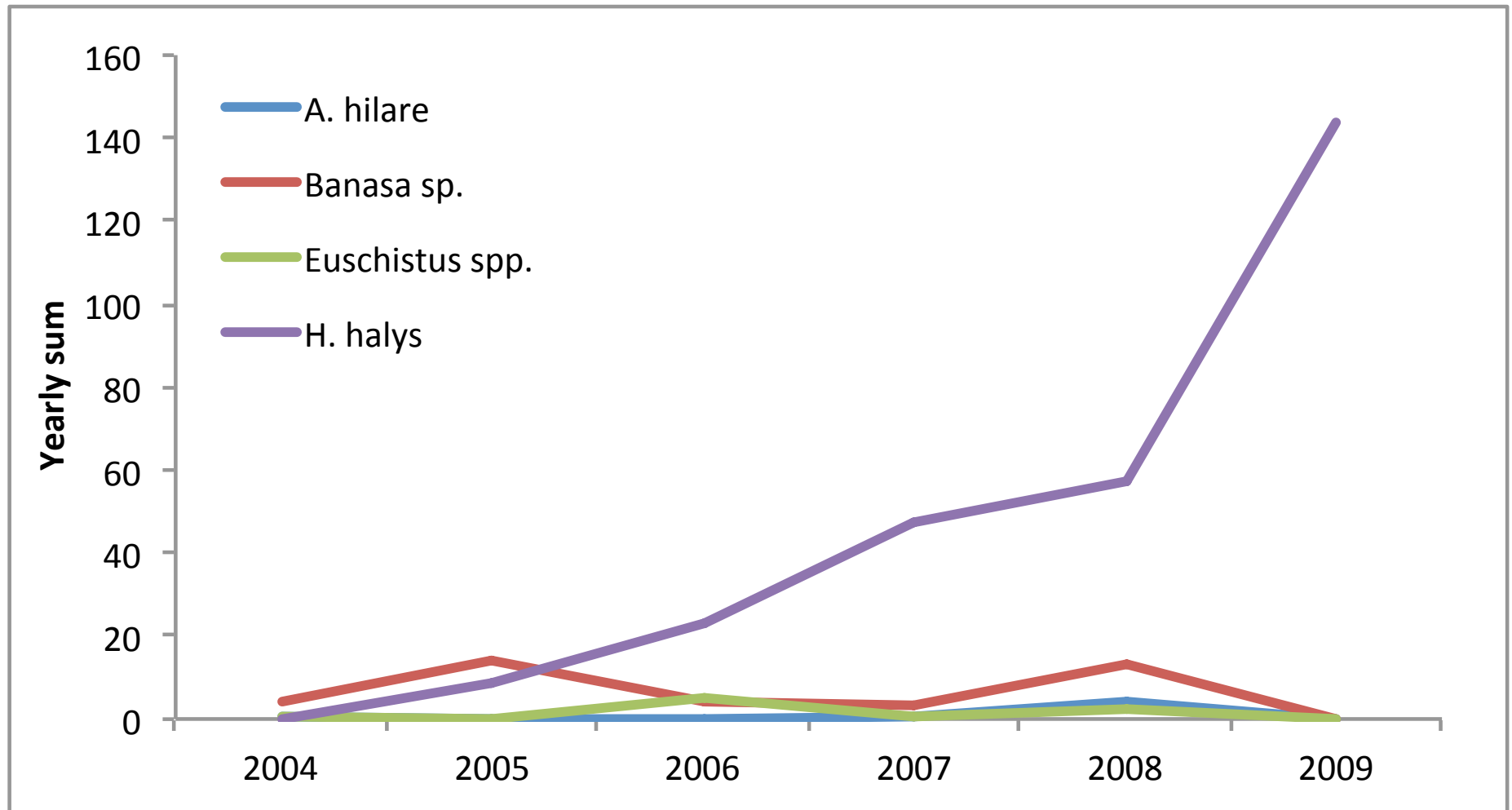
1. Detect new populations
2. Track Spread
3. Management decision tool
4. Develop biofix
5. Early season monitoring
6. **Ecological impact**

Native Stink Bug Species

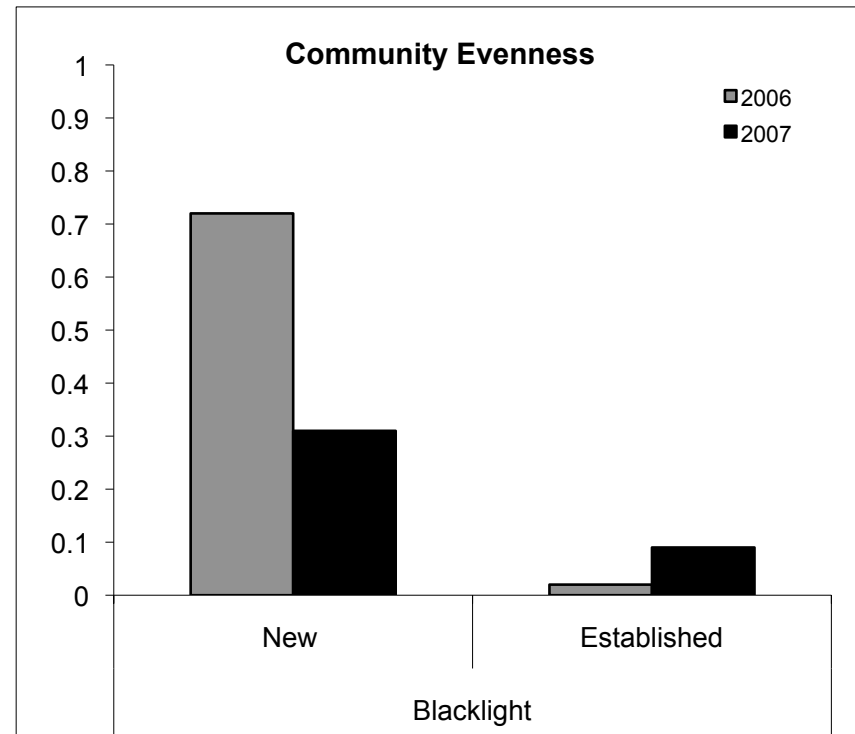
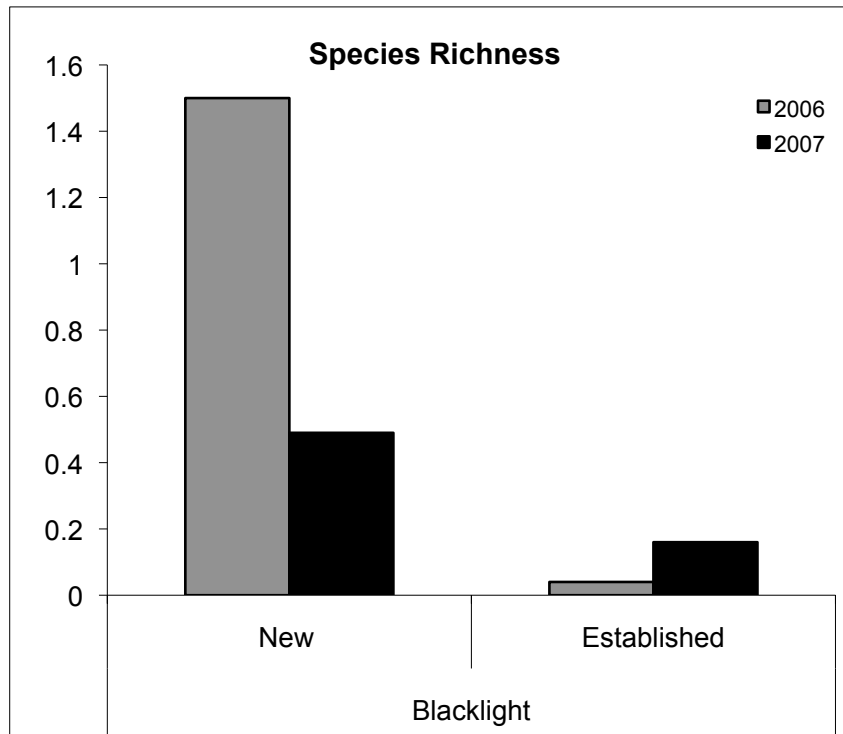
- Green stink bug (*Acrosternum hilare*)
- Brown stink bugs (*Euschistus servus*, *E. tristigma*, *E. variolarius*)
- Predatory stink bugs (*Podisus* spp.)
- Other (*Brochymena* sp. *O. pugnax*, *Meneclis insertus*, *Holcostethus*, *Murgantia histrionica*, *Banasa* sp., *Thyanta* sp.)



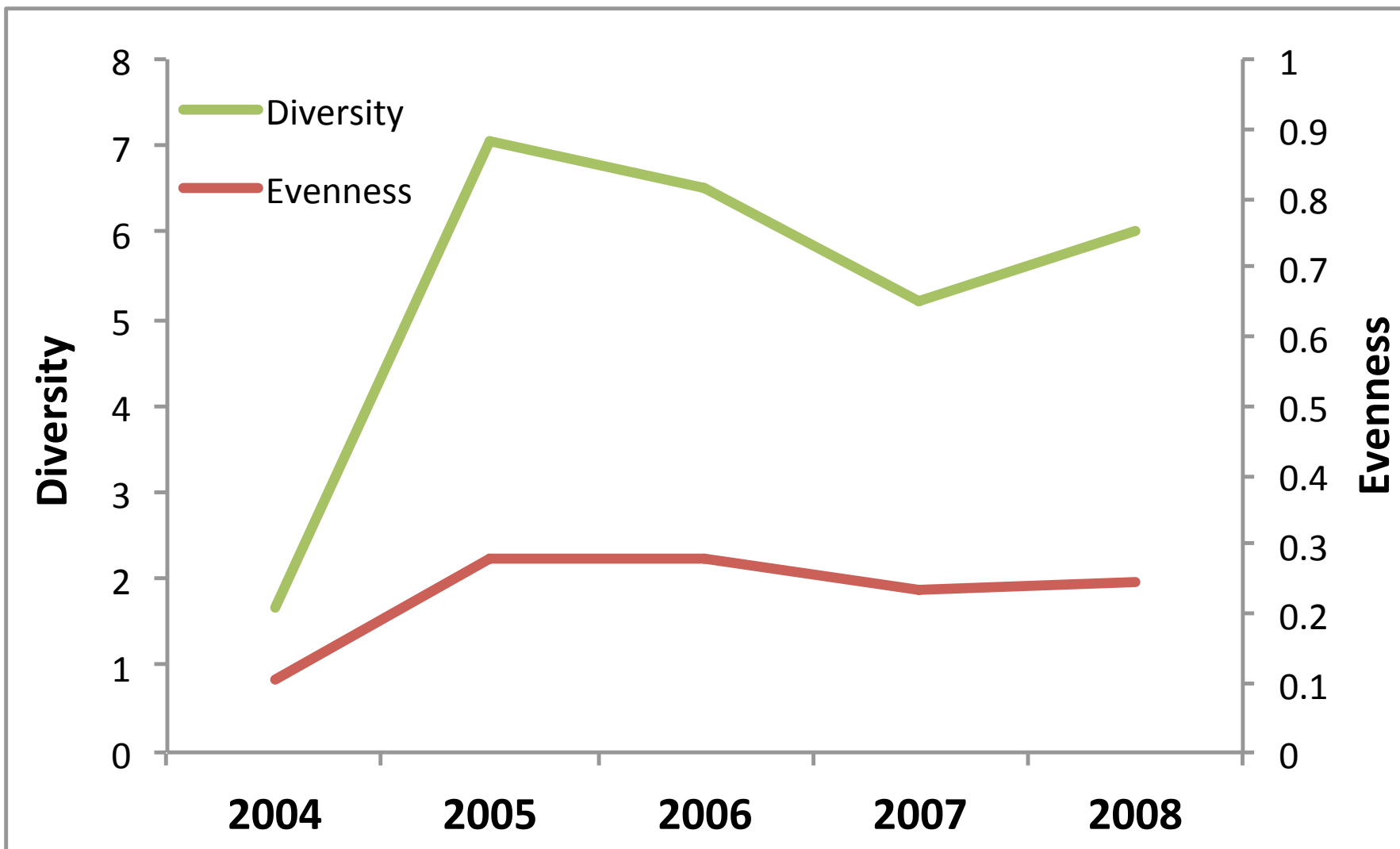
Stink bug abundance in Pittstown, NJ blacklight trap



Ecological Indices



Impact of BMSB on Native Species



Michigan Activities

- Early detection rapid response
- Seasonality
- Comparison between blacklight traps and aggregation trap
- Damage and management in cherries
- Flight behavior

