

# THE GRAND CHALLENGE OF INVASIVE ARTHROPOD SPECIES

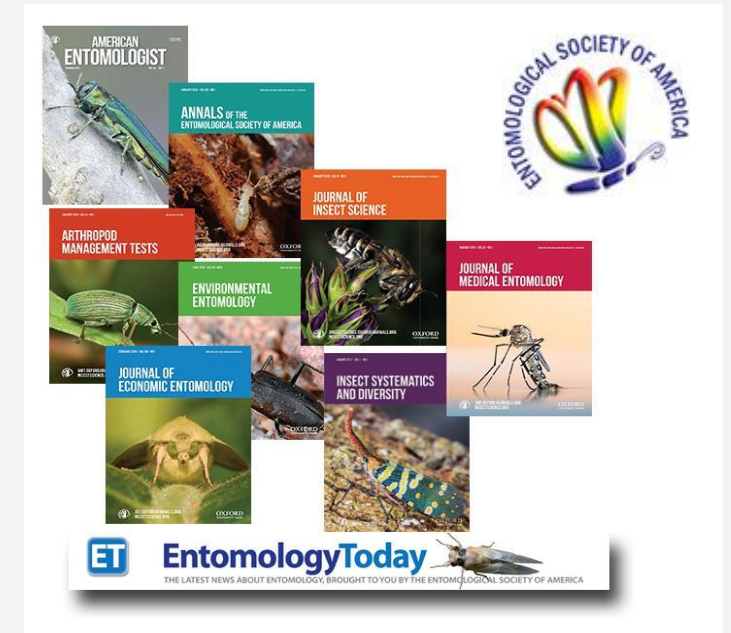


A PERSPECTIVE FROM THE  
ENTOMOLOGICAL SOCIETY OF  
AMERICA



# THE SOCIETY

- Largest insect science society in the world
- Founded in 1889
- ~7,000 members in > 80 countries
- Society members in academia, government, industry, non-profit organizations
- Research, teaching, outreach, extension, consultancies, etc.
- Hosts conferences, publishes peer-reviewed scientific journals, actively advocates for entomological science



ESA Sections



- Systematics, Evolution, and Biodiversity
- Physiology, Biochemistry, and Toxicology
- Medical, Urban, and Veterinary Entomology
- Plant-Insect Ecosystems
- Null Section

ESA Branches



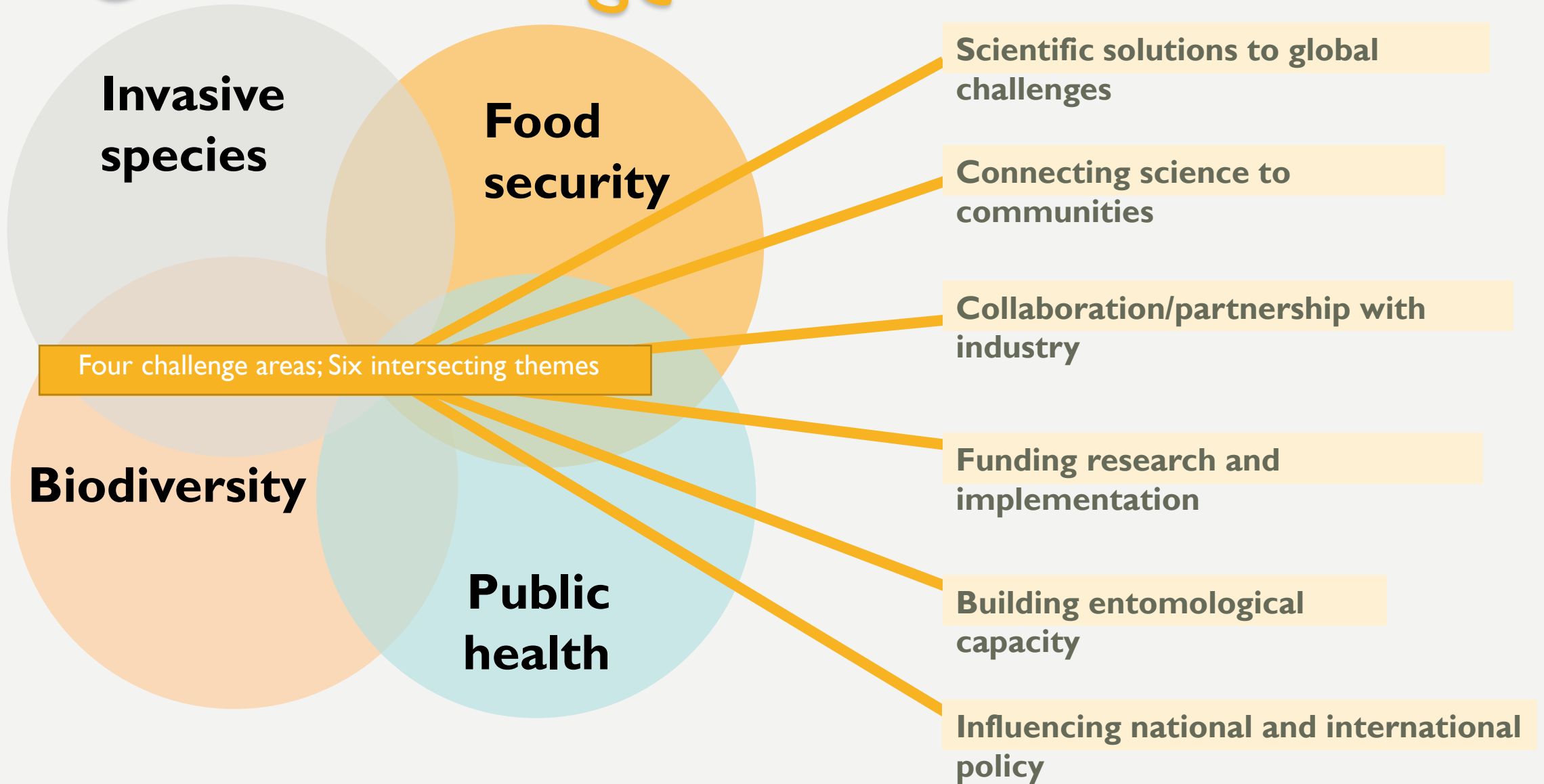
- Eastern
- NorthCentral
- Pacific
- Southeastern
- Southwestern
- International
- Null Branch

# SEEKING SUSTAINABLE AND MEANINGFUL SOLUTIONS

1. Public health – related to vector-borne disease
2. Food security – related to global hunger
3. Invasive arthropod species – related to global trade
4. Biodiversity – related to extinction, protecting and conserving biodiversity



# Climate change



# ESA POLICY AND INVASIVE SPECIES

- ESA Position Statement – adopted 2016
- *The Not-So-Hidden Dangers of Invasive Species*
- <https://www.entsoc.org/sci-pol/statements>
- *Annals of the Entomological Society of America*. 2018. 111(2): 79-80.  
<https://doi.org/10.1093/aesa/sax069>

# THE GRAND CHALLENGES PROGRAM FOR INVASIVE SPECIES



**2016**

The Leadership Summit in  
Orlando, Florida

*Aedes aegypti* Summit,  
Marceio, Brail



**2018**

The Invasives Summit  
Vancouver, BC



**2020**

Pre-border Prevention  
Summit  
Orlando, Florida



**Future**

There are additional  
summits planned



# THE INVASIVES SUMMIT ADDRESSING THE NORTH AMERICAN AND PACIFIC RIM INVASIVE INSECT AND ARTHROPOD SPECIES CHALLENGE



Vancouver, BC

November 9-10, 2018



# FOCUS ON FOREST PESTS



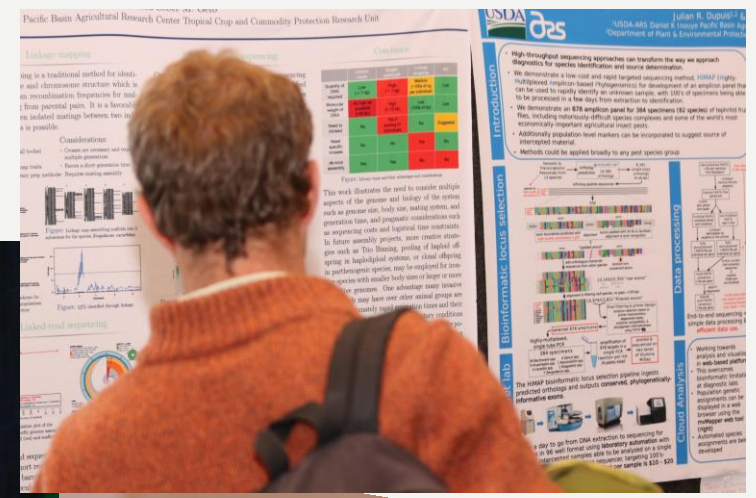
- There are a lot of different systems, commodities and impacts of invasive insect pests.
- We decided to focus on just one system...a big one



# THE COMMUNITY



# THE CONVERSATION



# PREVENTION



# DETECTION



# RESPONSE MANAGEMENT



# TRADE AND POLICY



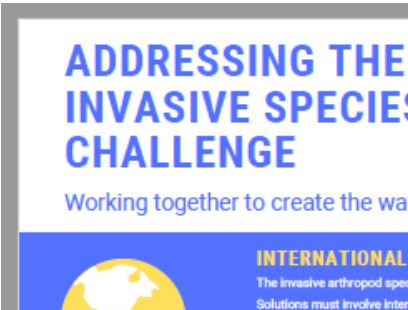


- Problem is largely **human created** – trade, human movement, population growth, environmental changes
- Best addressed through **prevention & management**, which are hard
- Invasive insects have significant impact and are **expensive**
- Specific challenges
  - More and new **pathways**
  - Increasing interceptions and incursions
  - Recognized **gaps** in knowledge
  - **Reduced funding** to support an increased burden
  - **Public knowledge** and **political engagement** are limited



- Capitalize on what is **already working**
- Revisit the **broad strategic framework** including legislation for invasive species management (national and international)
- Seek the formation of a **global coalition** to raise the profile of invasive species
- **Engage the public** in prevention, detection, and management
- Foster improved **coordination** and **collaboration** (data sharing, mining and use)
- **Innovate** – partnerships, funding, technology, communication
- Increase **capability for prevention**
- Pre-border, border, and post-border **response**
- Continued development of methods for **pathway analysis**

# OUTCOMES FROM THE INVASIVE SPECIES SUMMIT



## INTERNATIONAL COLLABORATION

The invasive arthropod species problem is global.

Solutions must involve international collaborations.

We need to engage in a process of developing creative solutions that could include:

- new treaties and partnerships
- better enforcement
- a dedicated, focused global inter-organizational coalition

## INCREASING CAPACITY

Trade, human movement and environments are expanding and changing.

Our current approach to prevention of new invasive species exceeds our capacity.

To increase capacity we need to foster:

- improved international coordination and collaboration along the biosecurity pathway
- data, technology, and resource sharing
- human resources

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capacity.

ity pathway

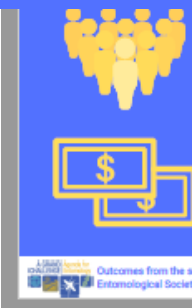
le, current efforts

## INNOVATION

While there is significant effort and expertise devoted to stemming the tide, current efforts are insufficient.

We need innovative:

- partnerships
- methods for pathway analysis, detection, response, and management



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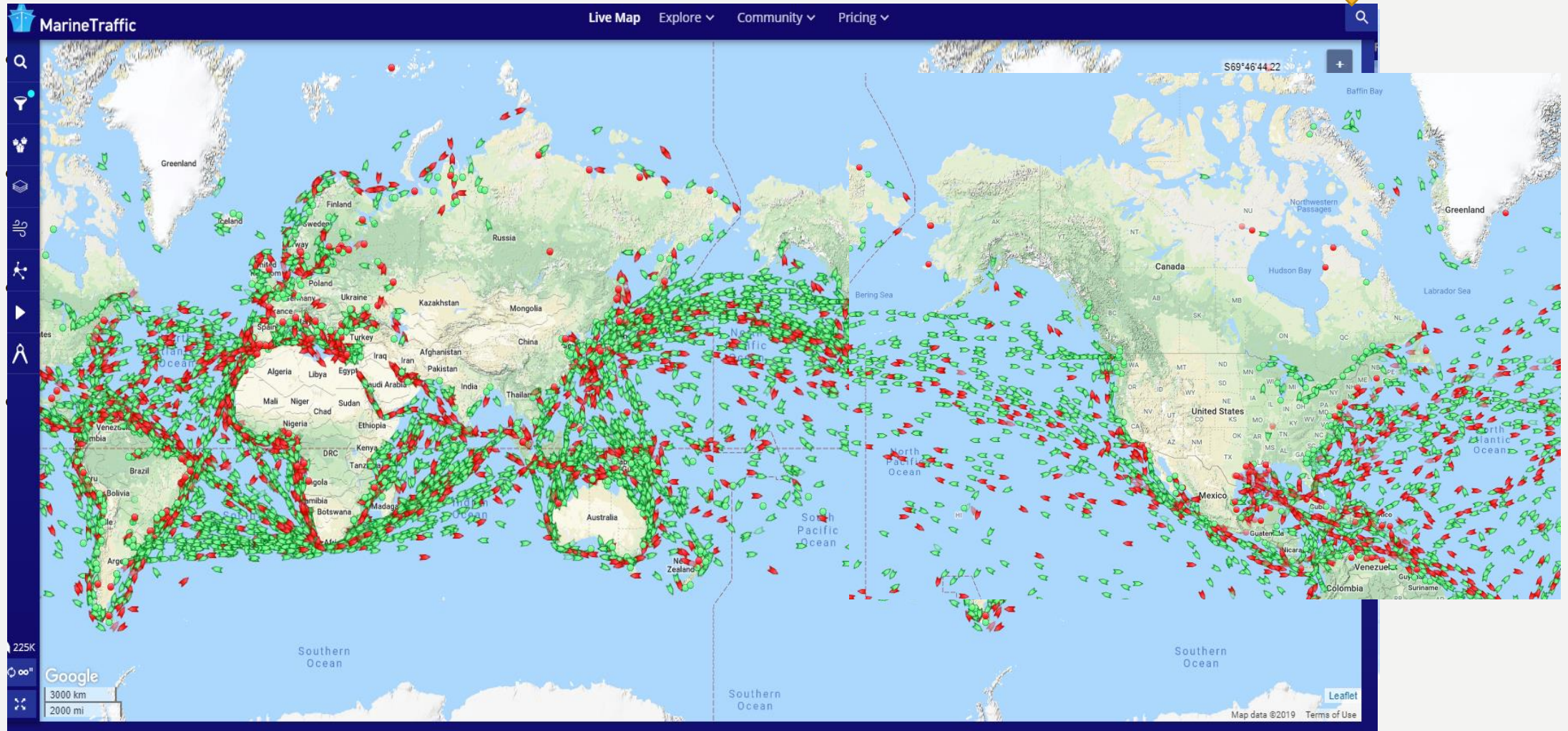


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summits planned

# THE COMPLEXITY OF THINGS

September 30, 2019





# A TIMELY DISCUSSION

10 YEARS SINCE THE ISPM-15 2009 REVISION





# PRE-BORDER PREVENTION: A NEW CONVERSATION ON INVASIVE PEST PATHWAYS THROUGH TRADE



Orlando, FL

November 14-15, 2020



**National Wooden Pallet  
& Container Association**  
*Pallets Move the World®*

November 14-15, 2020

*How can ISPM15 compliance be expanded to further lessen global invasive species risk associated with international shipments and wood packaging materials?*

1. What is the correlation between interdiction or interception and the likelihood of establishment of a pest invader?
2. How can the shipping and scientific communities get better at eliminating threats from the ports of embarkation?
3. How can the shipping and scientific community improve training opportunities for those charged with the application of treatments?
4. What is the level of risk associated with hitchhikers on freight?



# JOIN THE CONVERSATION

- ESA is seeking sustainable and meaningful solutions to foster public health, ensure food security, preserve biodiversity.
- Reducing the number of invasive species is an essential part of this
- Partner with ESA
- Join this important conversation at the summit in Orlando, November 2020





**WWW.ENTOMOLOGYCHALLENGES.ORG**

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