



National Crop Biosecurity

Prevention, Preparedness, Response, and Recovery

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Animal & Plant Health Inspection Service**

Plant Protection & Quarantine

Science and Technology

Center for Plant Health Science and Technology



Agenda....

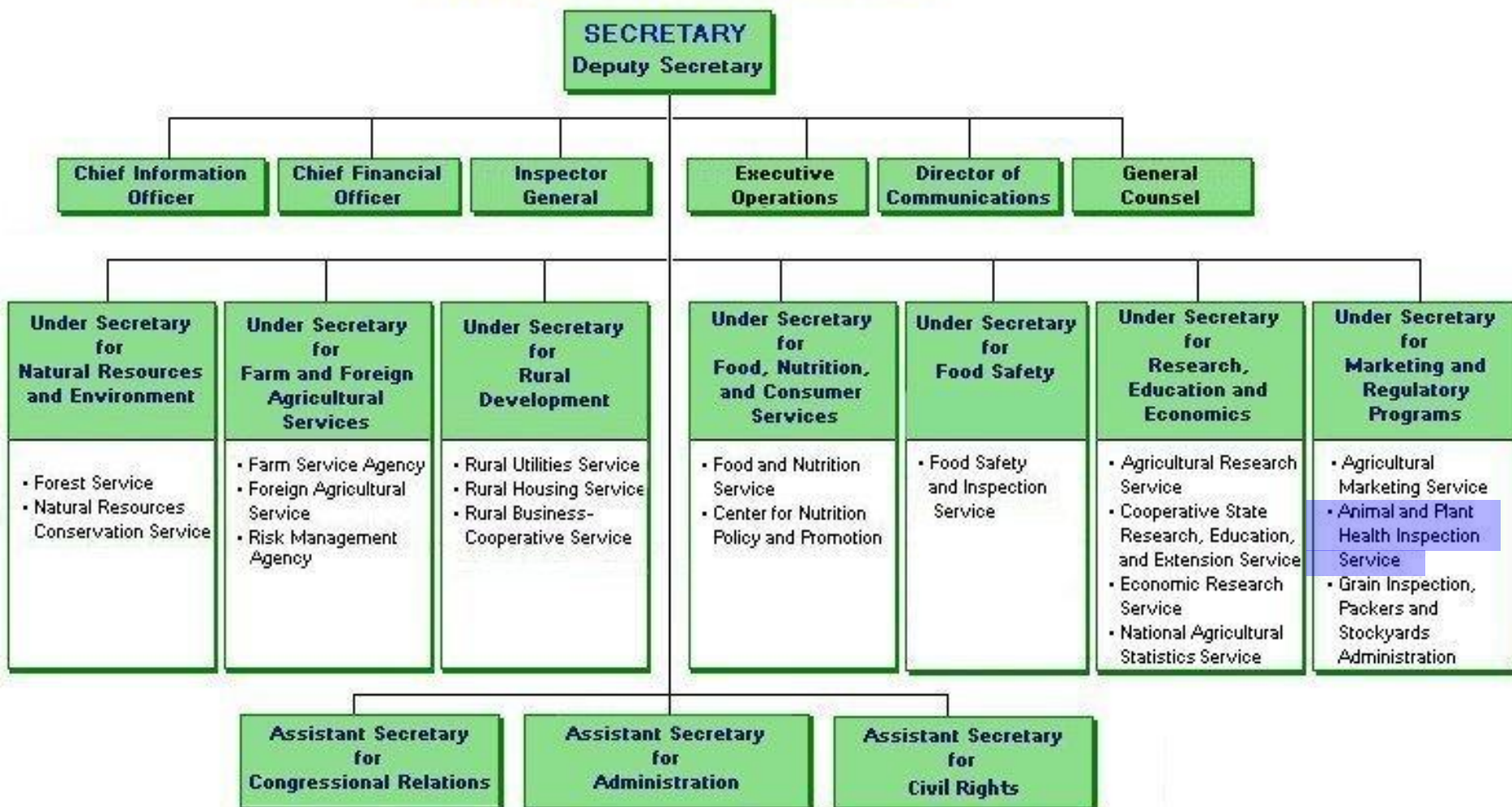
- ▶ **Background; USDA-APHIS-PPQ**
- ▶ **Pest & Disease Pathways**
- ▶ **PPQ – National Crop Biosecurity**
- ▶ **Case Study: Potato Cyst Nematode (PCN)**



Plant Protection and Quarantine

United States Department of Agriculture

Headquarters Organization

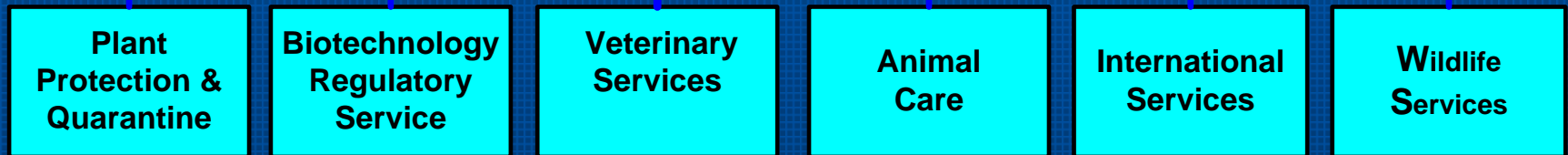




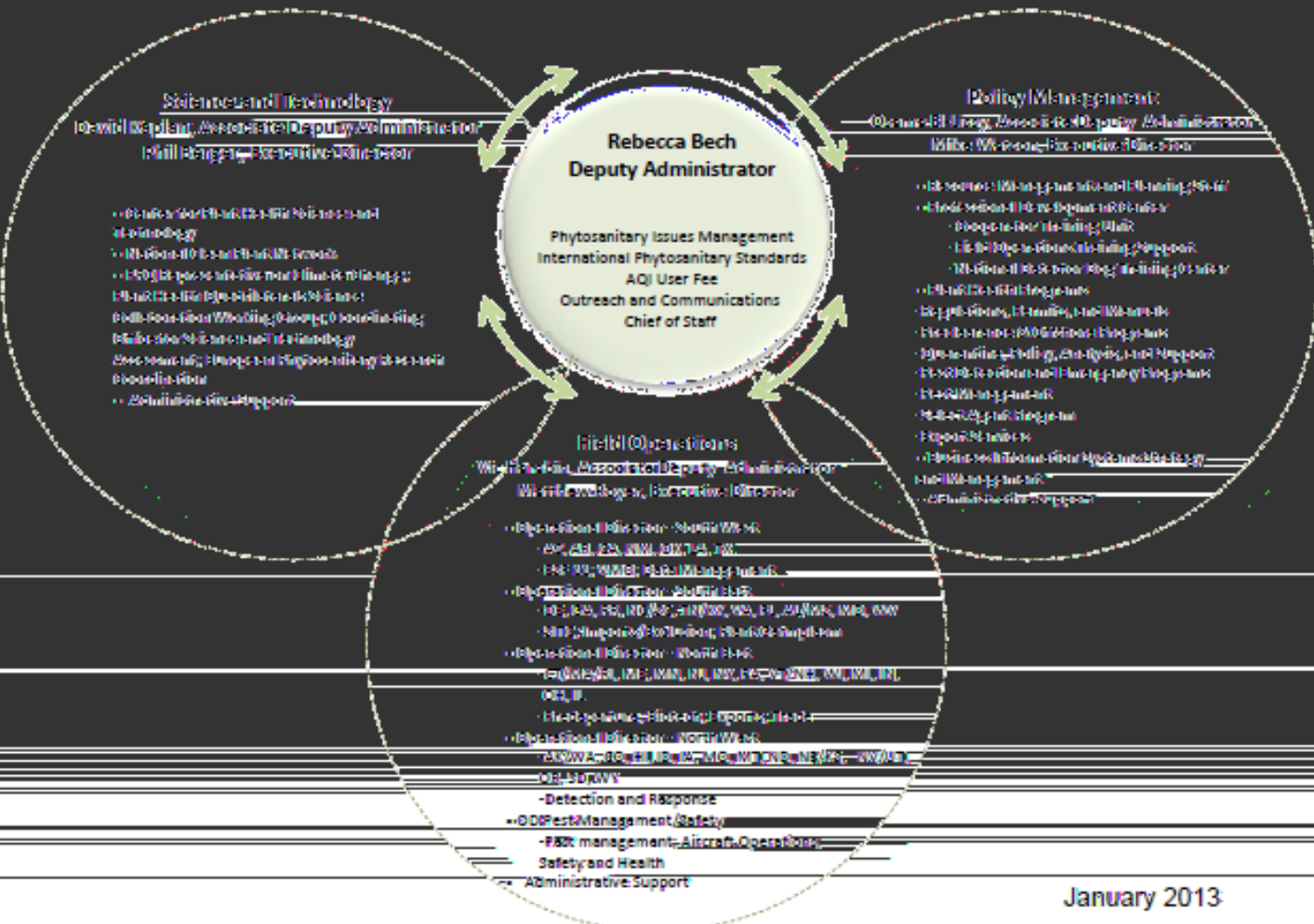
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PPQ Organizational Structure



January 2013



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Mission

PPQ safeguards agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds to ensure an abundant, high-quality, and varied food supply.

**Plant Protection Act, 2000
Agriculture Bioterrorism Protection
Act, 2002**



Pest and Disease Pathways

Unintentional

- **Natural Movement**
- **Accidental Introduction**

Intentional

- **Smuggling**
- **Bioterrorism**



Why Target Agriculture?

American Agriculture

~13% of the Gross Domestic Product
~17% of all U.S. employment
**~25 million Americans are employed in
agricultural-related industries**

- **Agricultural industries valued at \$230 billion**
- **Agricultural Exports account for \$140 billion
& 860,000 jobs**



Why Target Agriculture?

Ramifications & Consequences:

- **Devastating impact on U.S. agriculture economy**
- **Loss of nation's supply of food & fiber**
- **Disruption of trade & commerce**
- **Increased dependency on imports**
- **Impact on environment / quality of life**

Asian Long-horned Beetle



Asian Long-horned Beetle



Asian Long-horned Beetle





Emergency Response and Recovery

Plant Health vs. All Hazards

	Plant Health	All Hazards
Lead Agency	APHIS-PPQ	FEMA
Authority	Plant Protection Act	Homeland Security Act
Policy	NIMS-ICS	National Response Framework NIMS-ICS
APHIS' Role	Primary	Lead – ESF11
Presidential Declaration	Not required	Required



National Crop Biosecurity

PPQ Vision

Highly Coordinated Systems:

- **Science-based**
- **Maximum protection**
- **Minimum adverse impacts**
- **Inclusive**

National Framework for Crop Biosecurity: Four Elements

1. Prevention

2. Preparedness

3. Response

4. Recovery





National Framework for Crop Biosecurity: Four Elements

1. Prevention

- Off-Shore Pre-Clearance Program
- Agricultural Quarantine Inspection

2. Preparedness

- Permits
- Surveillance

3. Response

- Diagnostics

4. Recovery

- Mitigations
- Critical Infrastructure
- Vulnerability Assessment



National Framework for Crop Biosecurity: Four Elements

Prevention

Agricultural Quarantine Inspection

Support to DHS Customs and Border Protection:

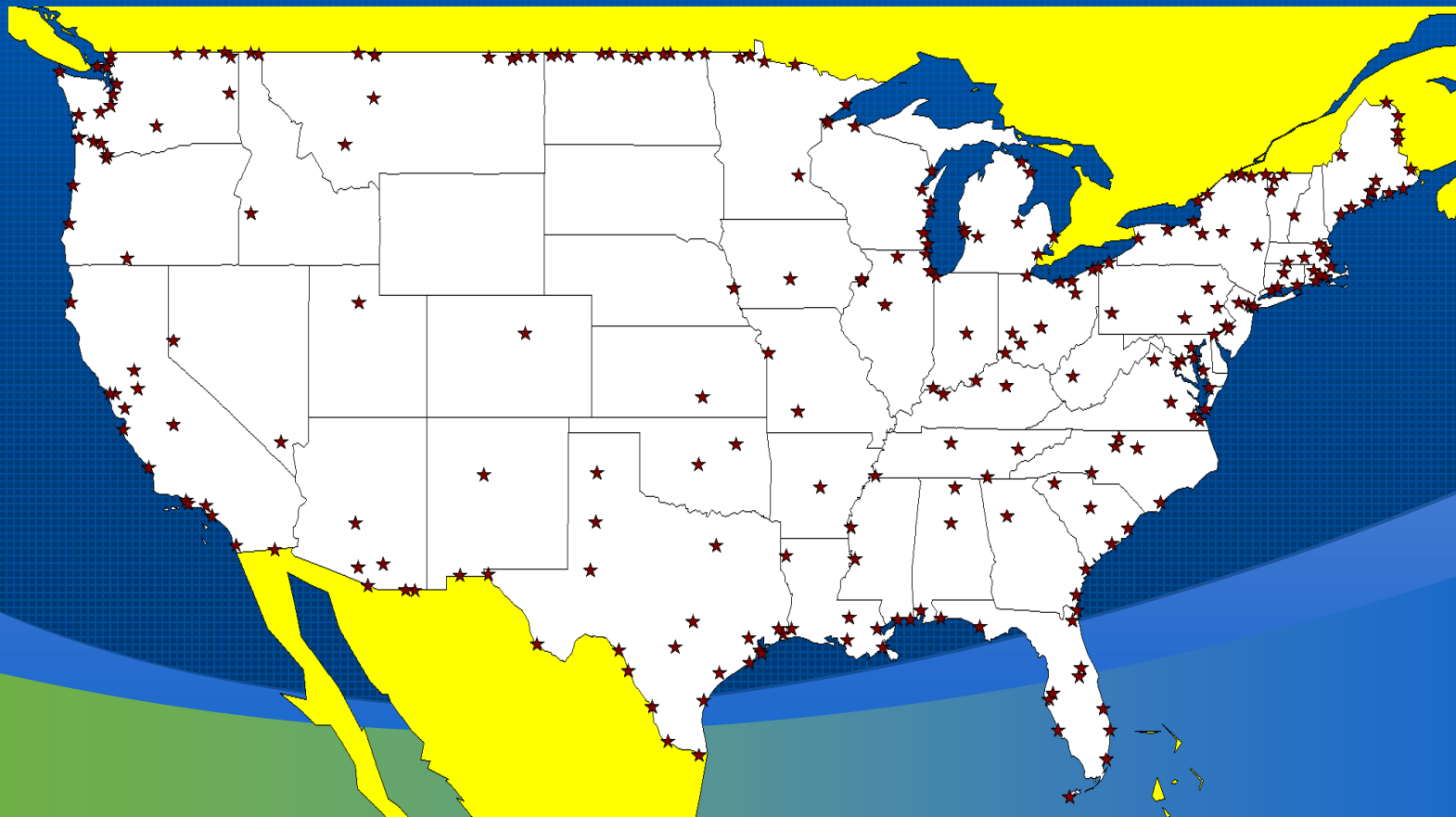
- Policies, Rules, and Regulations
- Pest identification at 25 ports-of-entry
- Technical training
- Inspect plant material
- Animal products (Veterinary Regulatory Services)



National Framework for Crop Biosecurity: Four Elements

Prevention

• **Agricultural Quarantine Inspection**





National Framework for Crop Biosecurity: Four Elements

1. Prevention

- Off-Shore Pest Information System
- NAPPO Phytosanitary Alert System

2. Preparedness

- Risk Assessment
- Science Panels

3. Response

- New Pest Response Guidelines

4. Recovery

- Diagnostics (development, validation, capacity)
- Survey – Detection (CAPS, NAPIS, NBIS)
- Treatment (mitigation)
- Training (ICS, survey, diagnostics, data management, mitigation, exercises, etc.)
- Infrastructure

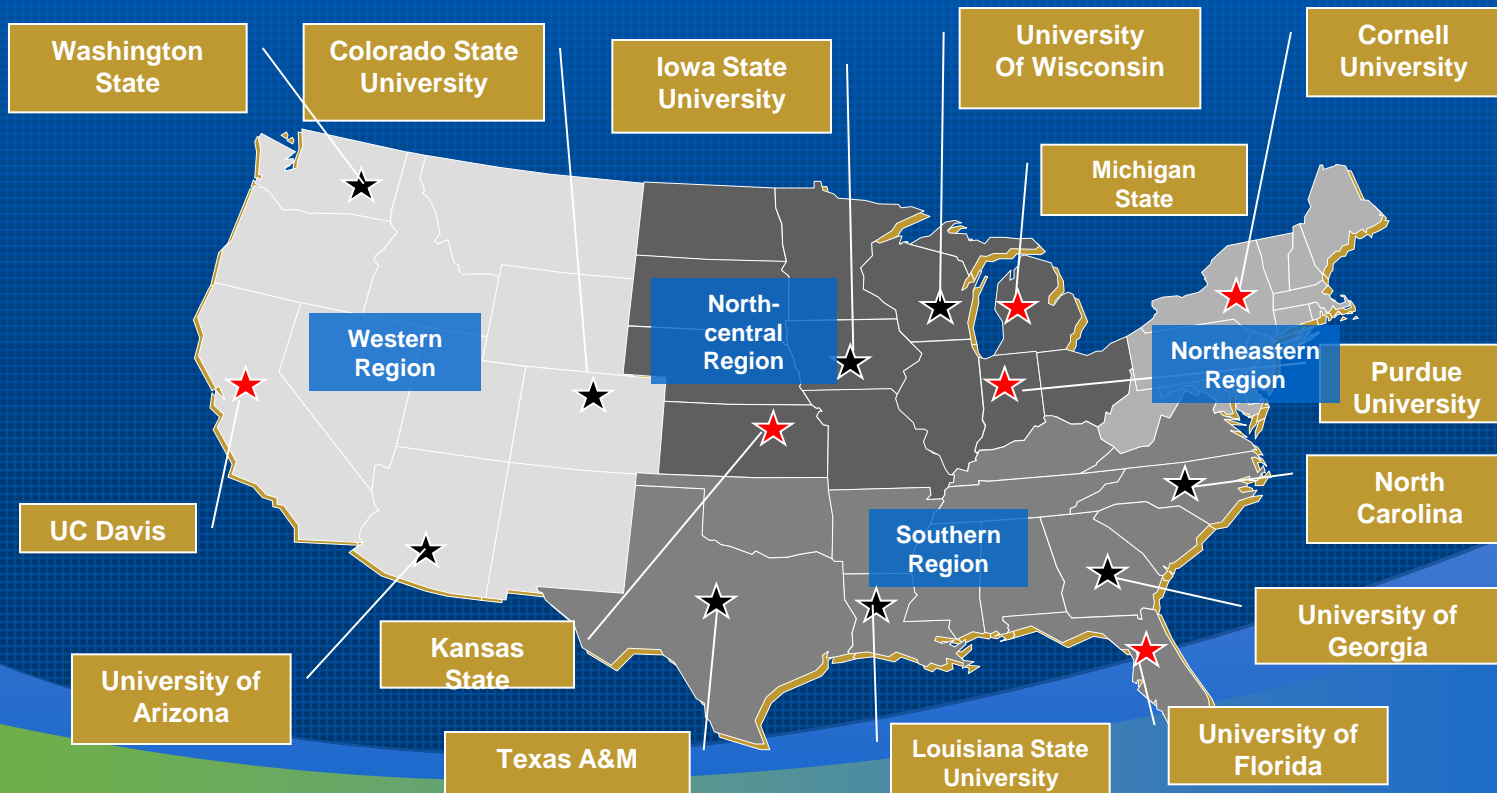


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National Framework for Crop Biosecurity: Four Elements

Preparedness

Diagnostic Networks & Data Management



National Framework for Crop Biosecurity: Four Elements

Preparedness

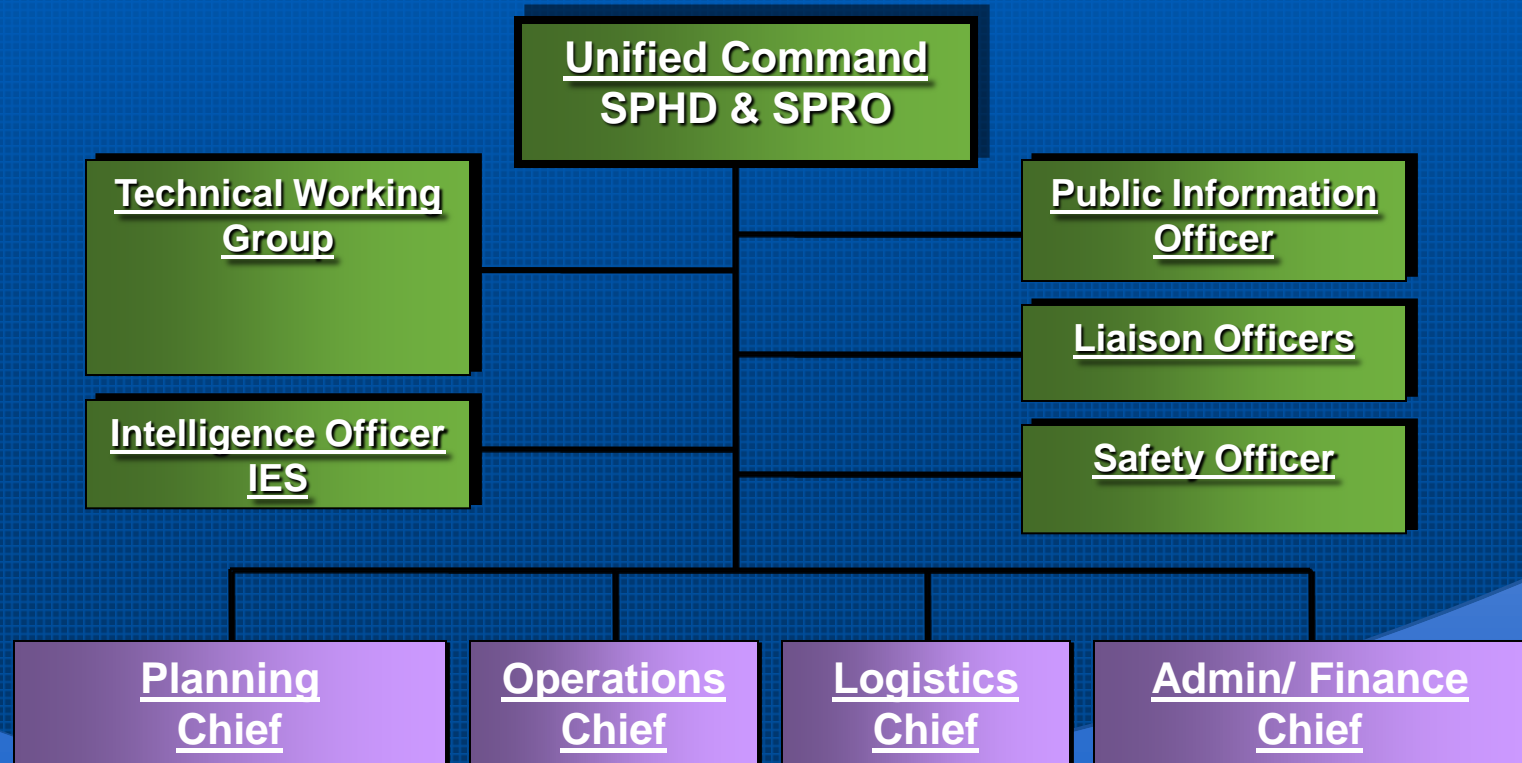
Preparedness and Response Training:

- ICS 100/200 (Mandatory APHIS Employee Training)
- ICS 300 (Mandatory for All State Plant Health Directors)
- Full-Scale Exercises
- Workshops/Seminars
- Table Top Exercises
- Functional Exercises





ICS - Command Staff





National Framework for Crop Biosecurity: Four Elements

1. Prevention

- **Implementation Plan**
Generic and Sector-Specific Elements

2. Preparedness

- **Incident Command System**
Federal and State Unified Command

3. Response

- **e-Resource Allocation and Tracking**
Human, Fiscal, and Physical Resources

4. Recovery

- **Survey - Detection**
Adequate – Timely
- **Diagnostics**
Accurate and Timely
- **Mitigations**
Timely – containment, control, and eradication

National Framework for Crop Biosecurity

Response

- **Incident Command System**
Federal and State Unified Command
- Emerald Ash Borer (MI, IN, IL, OH)
- Plum Pox Virus (NY, MI, PA)
- Citrus Greening & Canker (FL)
- *Sirex noctilio* (NY)
- Fruit Fly Outbreaks (CA, FL, MX)
- Potato Cyst Nematode (ID)





National Framework for Crop Biosecurity: Four Elements

Recovery

- **National Plant Disease Recovery System**
- **Prevention Elements**
- **Survey and Detection**
- **Long-Term Pest Control Systems**

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Thank You

