

**AQUACULTURE/
AQUATIC ANIMAL HEALTH
PROGRAM
&
COMMERCIAL AQUACULTURE
HEALTH PROGRAM
STANDARDS**



**KATHLEEN HARTMAN
*AQUACULTURE PROGRAM LEADER***

**U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH
INSPECTION SERVICE
VETERINARY SERVICES**

**NC AQUACULTURE DEVELOPMENT
CONFERENCE**

2016



Program Activities Overview

(as described in Program Business Plan https://www.aphis.usda.gov/animal_health/downloads/vsbp/5_year_business_plan_aquaculture.pdf)



- Import/Export update
- Projects
- National Aquatic Animal Health Plan
- Commercial Aquaculture Health Program Standards
 - Comprehensive and integrated surveillance

Import/Export Update

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- Electronic certificates
 - Veterinary Export Health Certificate System (VEHCS) pilot completed
- One certificate exists for ornamental fish being exported to Canada
- Discussions on going for complete electronic certificates

Aquaculture Program Projects

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- **Multi-agency ISAV surveillance in the Pacific NW**
 - Sample collection completed
 - All tests negative to date
 - Published report pending
- **East Coast Regional Shellfish Management**
 - Disease surveillance study in *C. virginica*
 - Intrastate biosecurity zones
- **Aquaculture Ag-Econ**
 - Bait/sport fish survey
 - Salmon and trout proposal

National Aquatic Animal Health Plan



- **Renewal of two MOUs with USFWS and NOAA NMFS**
 - NAAHP commitment
 - Export coordination
- **Aquatic Laboratory Network**
 - Phase 1 completed
 - ✦ Proficiency testing panels for ISAV and VHSV
 - Phase 2 and 3
 - FY16 request to add SVCV
- **SCS/Core One Database**
 - Database structure completed for aquatic animal entries

Commercial Aquaculture Health Program Standards



- National Aquaculture Association (NAA) and APHIS VS
- Implementation plan of NAAHP for commercial aquaculture





Aquatic Animal Health

- Culture of healthy animals
- Demonstrate health status of animals
- Get more for less

Commercial Aquaculture

- Culture and production of healthy animals for sale and trade
- Demonstrate health status of animals to minimize obstacles for animal movement
- Get more trade for less production costs



- **Aquaculture** - The farming of aquatic animals with some sort of intervention in the rearing or farming process
 - **Commercial Aquaculture** - The business of farming aquatic animals for sale or trade, with some sort of intervention in the rearing or farming process
- **Health** – The state of being free from disease or injury



- **Maximize** immune system function of the individual fish and/or population
- **Minimize** (or eliminate or know) disease-causing agents in the fish and/or system
- **Manage** with optimal husbandry and biosecurity

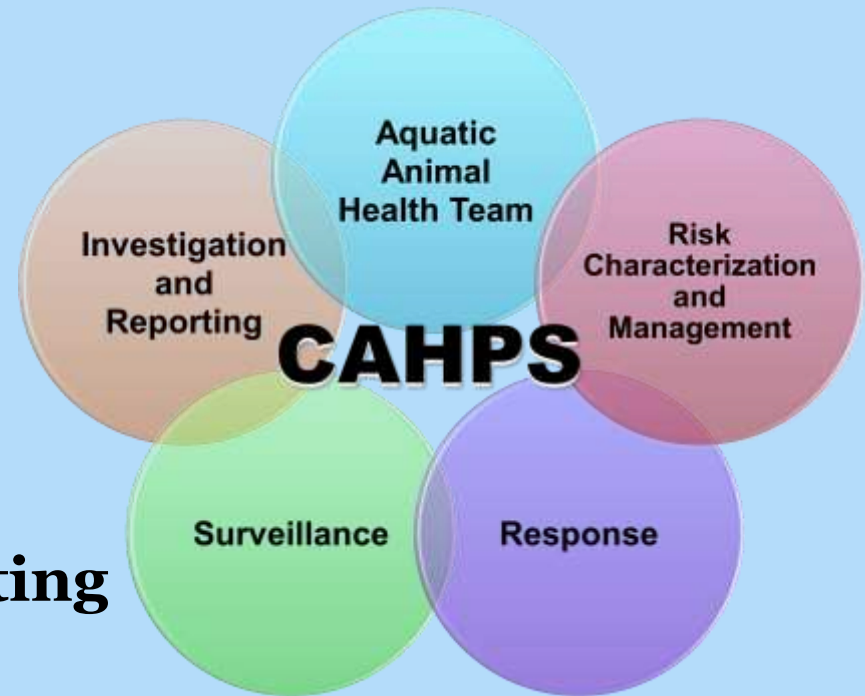


- **Pathogen virulence and “behavior”**
 - Susceptible species
 - Pathogen transmission
 - Carrier states
- **Diagnostics**
 - Available, robust, repeatable
- **Management**
 - Treatment, control, eradication, recovery, prevention

Principles of Aquaculture Health



1. **Aquatic animal health team**
 - The knowledge & skills
2. **Risk evaluation**
 - The science & method
3. **Surveillance**
 - The strategy & approach
4. **Investigation and reporting**
 - The process & protocols
5. **Response**
 - What we do when things happen





CAHPS

Commercial Aquaculture
Health Program Standards

Aquatic Animal Health Team



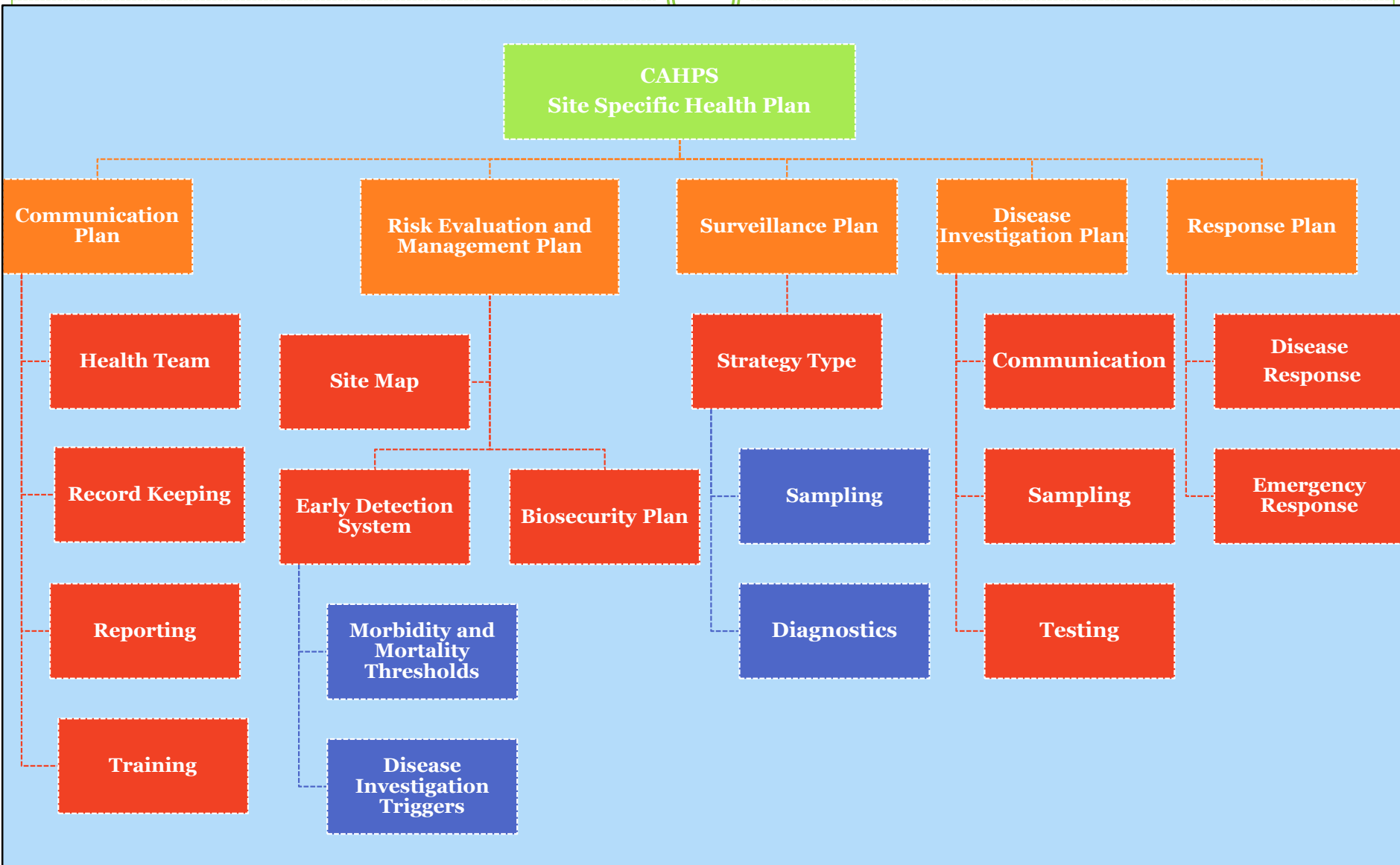
- Comprised of:
 - Veterinarians, AFS certified professionals, laboratorians, extension agents & other subject matter experts
- Actively engages with site
- Designates a leader
 - Engages regularly
- Assists with Site-Specific Health Plan



CAHPS

Commercial Aquaculture
Health Program Standards

Site Specific Health Plan





- **Risk Identification**
 - Pathogens of concern for species being cultured and for species in proximity
 - Pathways - Where? How? When?
- **Risk Characterization**
 - Degree of risk – Where? When? How?
 - Scope of risk
 - Impact of risk – exotic vs endemic pathogens



- Risk Mitigation
 - Strategies
 - Early disease detection systems (EDDS)
 - Training and management
 - Setting site specific thresholds
 - Biosecurity
 - Management procedures to mitigate identified risks
 - “Not all footbaths are created equally”



- **Purpose and boundaries of surveillance**
 - Freedom of disease, known disease status
 - Site, zone
- **Strategies – based on goals and diagnostics**
 - Observational
 - Pathogen specific surveillance
 - Initial status
 - Endemic or emerging pathogens
 - Risk based surveillance
 - Enhanced routine moribund sampling
 - Repeated collections; seasonal
 - Diagnostics – at least 50% sensitivity



- **Disease investigation**
 - Triggered with site specific thresholds are exceeded
 - Scope depends pathogen and impact
 - Diagnostics

- **Reporting**
 - OIE, national and state lists
 - NLRAD
 - Appropriate officials



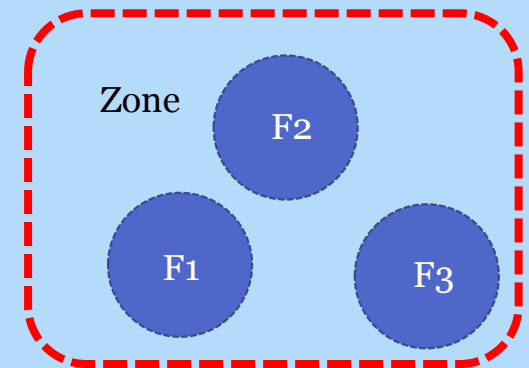
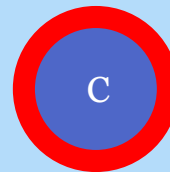
- Contingency Planning
- Pathogen and impact of pathogen
 - Treat? Vaccinate? Depopulate?
- Debrief for lessons learned
 - What went wrong?
 - How to fix
- Recovery and continuity of business



CAHPS (E, C, and Z)



- Establishment (E)
 - Single site and low risk because of surveillance and biosecurity
- Compartment (C)
 - Single site but higher standard of biosecurity and even lower risk
- Zone
 - Region around site with surveillance partners
 - Claim disease “free” status



Commercial Aquaculture Health Program Standards



- Model framework for preserving aquatic animal health
- Science-based
- Needs-based (voluntary)
- Available to private and public aquaculture
- Strengthened through State, Tribal, and Federal collaboration

Potential CAHPS Benefits: Short and Long-term



- Minimize potential for catastrophic infectious diseases of economic significance
- Enable international export of live aquatic animals
- Reduce hurdles for interstate movement of live aquatic animals



Impact of Principles



- Animals are lower risk for specific pathogens because of surveillance and biosecurity
- “We know what we know because we know it.”

“There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don’t know. But there are also unknown unknowns. There are things we don’t know we don’t know.”

- Donald Rumsfeld



Our Time Together Today



- What we share
 - Aquaculture and health
- Principles of assuring aquaculture health
 - Commercial Aquaculture Health Program Standards
- We CAN if...



**Questions?
Comments?**

APHIS VS Aquaculture
webpage

<http://www.aphis.usda.gov/animalhealth/aquaculture>

Email:

VS.SPRS.Feedback@aphis.usda.gov



Thank You

