AQUACULTURE PROGRAM UPDATE

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Program Activity Overview

- CAHPS
- Program Projects
- Import/Export Update
Challenges to U.S. Commercial Aquaculture

- Unrealized aquatic animal health plan
  - No leverage with trading partners
  - No regions or zones
  - Testing without long term meaning

- Complicated interstate movement
  - Diverse and complex requirements
  - Different authorities at the State level
  - Significant costs
  - Test results are often meaningless
    - And, hard to interpret
    - And, hard to compare
Commercial Bait and Sportfish Survey

- 498 regulations [86% state]; 13 renewals/yr [as many as 203/farm]
- Cost of current regulations
  - Direct costs 1%/Indirect costs 99%
- Economic benefit of standards
  - Recovery of foregone/lost sales
- Anticipated net benefit (sport and baitfish)
  - Annual regulatory costs reduced from $150K to $56K-$66K
  - Savings per acre $600-$1,900
- $12+ million in annual regulatory costs reduced to $5 million
  - Interstate movement

Representing 74% of U.S. bait and sportfish production

Engle & van Senten
% Cost of Regulations by Category

Engle and Van Senten
CAHPS

- Assuring aquatic animal health and facilitating safe animal movement

- Voluntary participation
  - Oversight, auditable documentation

- Science-based
  - Flexible and responsive to emerging pathogens, diagnostic technology, and scalable surveillance strategies

- Strengthened through Industry, State, Tribal, and Federal collaboration and partnership
Principles of Standards

1. Aquatic animal health team
   - Knowledge & skills

2. Risk evaluation
   - Science & method

3. Specific Pathogen Surveillance
   - Strategy and testing

4. Investigation and reporting
   - Process & protocols

5. Response & Recovery
CAHPS Pilots

- Tilapia cooperative in NC

- Salmon producers in Washington and Maine
  - WA – saltwater component
  - ME – freshwater component
CAHPS Tilapia Pilot

- Tilapia (all male hybrids)
- 5 farms in the cooperative – all indoor RAS
- Selling to international live markets
- Pathogens of concern
  - *Strep iniae*
  - *Francisella sp.*
  - *Flavobacterium sp.*
- Emerging pathogens
  - Tilapia Lake Virus (TLV)

### CAHPS Process

1. Health Team ✓
2. Risk evaluation
   - Site visit ✓
   - Biosecurity plan
3. Surveillance
   - Approach ✓
   - Testing
4. Investigation and reporting
   - Thresholds
5. Response
   - Plans
Biosecurity

- Biosecurity practices in place
  - Animals
    - Separation of animal lots
    - Separation of life stages
  - Protected water sources
  - Commercial pelleted feed
  - Vectors
    - Limited access
  - Fomites
    - Dedicated equipment
    - Use of disinfectants
Quarantine, Nursery, Hatchery
Surveillance Plan

- Presume an Se of 85% for diagnostic assays.
- Without testing at source farm – test all of the 5 receiving facilities ... once.
- Unreliable mortalities so need to collect healthy fish, which means we need to aim for a lower detection prevalence.
  - 1, 2 and 5% prevalence are common targets. The default is often 2%.
    - At 2% design prevalence, we’d need to collect 163 fish per facility.
    - Because population is naïve 5% is justifiable.
      - At 5% design prevalence, we’d need to collect 69 fish per facility. Ideally collections split over two seasons.
- May change with changing risks.
- Weak spot is the lack of testing for the source population
  - Continued testing of post-shipment moribund
    - 10 moribunds from 3 facilities (95% confidence)
Because of CAHPS...

- Assurance of health of farm raised aquatic animals
  - Lower risk for specific diseases because of biosecurity and surveillance
  - Claims about population health status

- Facilitate animal trade and movement
  - Leverage international trade
  - Reduce hurdles for interstate movement

- Marketing and branding
  - Increase public trust, confidence
  - Demonstrates awareness of standards for consumers, builds a story

- Complement to other programs
  - Food system biosecurity/Food security
  - Certification programs
  - Animal welfare
  - Yield verification studies
Trout and Salmon Survey 2016-2017

~99% of value of trout sold nationally & ~87% of the farms nationally

Funded by:
WRAC
USTFA
APHIS
Shellfish Projects - 1

East Coast Workshop to identify design elements critical to a shared database for shellfish health

- Annapolis, MD, July 26-27, 2016
- 11 participants
  - Government, database development, laboratory and industry representatives
- Identified objectives, critical features and incentives for participation
- Working to secure funds for development through grants and industry associations
Shellfish Health Zones

- Parallel Studies: Rhode Island and Maine
- Coupling industry and wild animal sampling to support disease freedom claims
- Survey for endemic pathogens to determine whether and how to establish zones
Pacific NW ISA Surveillance

- Testing completed
  - More than 4,000 samples tested from farm raised and wild/feral fish
- No positives found
- ISA Factsheet produced
- Publication planned
  - *Journal of Fish Diseases*
Other Program Activities

- Case definitions for listed pathogens
  - ISA, SVC

- 2018 NAHMS Aquaculture Survey

- NAHLN
  - ISA, SCV, VHS
  - Next?

- SCS CoreOne Master Program for CAHPS participants
  - Database
Import/Export Update

Update provided by Dr. Christa Speekmann
NIES Senior Staff Officer

- Newly negotiated certificates
- Bilateral audit with Canada
- Expanding export markets
  - Finfish
    - Eastern Europe, Australia, Canada, Chile, Colombia, Israel, Japan, Korea, Mexico, Norway, Taiwan, Singapore and Serbia
  - Shrimp Broodstock
    - Vietnam, Korea, China
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