



Module 19: Animal Health Emergency Response

*USDA-APHIS National Veterinary
Accreditation Program (NVAP)*

IOWA STATE UNIVERSITY*
College of Veterinary Medicine

Supplemental Training

1. Print clearly on the sign-in sheets.
2. It is critical that we have your current email address for your accreditation renewal.
3. If you do not know your 6 digit National Accreditation Number, please see me at the conclusion of the presentation.
4. You will receive a Certificate of Completion during the presentation.
5. Keep your Certificate of Completion forever-
do not send it to APHIS.

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Supplemental Training

- All APHIS Approved Supplemental Training (AASST) modules are also available on our Website with interactive features and links to additional Web resources.
- Type "NVAP" into your search engine e.g. Bing, Google, Yahoo.

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Supplemental Training

- Familiarize accredited veterinarians with animal health regulatory concepts and activities
 - Does not supersede the regulations
- For the most up-to-date regulations and standards, please refer to:
 - Code of Federal Regulations
 - Local APHIS Veterinary Medical Officer
 - Visit the NVAP website

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Overview

- Roles, organizations, agencies in which veterinarians assist
- Response planning, coordination (NIMS, ICS)
- Additional training resources pertaining to animal health emergency response



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Animal Health Emergency Response

- Veterinarians play vital role
- Many opportunities for involvement
 - Depend on interest, areas of expertise
 - Support relief efforts at local, State, Federal level
- May assist internationally
 - 2001: UK's FMD outbreak
- Organizations and agencies



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

National Animal Health Emergency Response Corps (NAHERC)


- 2001: Established by USDA-APHIS
- Volunteers eligible to join:
 - Veterinarians, veterinary technicians, college students
- Temporary Federal employees for duration of assignments
 - 21 days domestic/30 days int'l
 - Travel/lodging expenses reimbursed
 - Liability, workman's comp insurance coverage
- FMD 2001, LPAI 2002, END 2003



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

NAHERC Involvement


- Disease surveillance
- Epidemiological information
- Examining individual, groups of animals
- Vaccinating animals
- Euthanizing animals
- Post-mortem examinations
- Inspections
 - Markets, trucks, vehicles
- Biosecurity, C&D operations



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Getting Involved with NAHERC

- Visit the USDA-APHIS Animal Health Emergency Management website
 NAHERC Program Coordinator
 - (301) 851-3517
 - NAHERC@aphis.usda.gov



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health



VMAT Development

- 1992: Hurricane Andrew
 - No response plan for veterinary medical needs
 - AAHA requested AVMA prepare Disaster Response Policy
 - Visit the AVMA website
- 1993: VMATs incorporated into NRF
 - Funded by AVMF
 - Public-private partnership assisting nationally
- 1998: Pre-disaster planning locally
- 2009: AVMA re-launched

The AVMA VMAT logo features the AVMA logo (a stylized 'A' with a globe) and the text "AVMA VMAT" in bold, with "AN AVMA PROGRAM" in smaller text below.

USDA-APHIS National Veterinary Accreditation Program March 2014 Center for Food Security and Public Health

VMAT Involvement

- Dec 2011: Three AVMA VMAT functions
 - 4-6 person volunteer teams
 - Professional and support personnel, veterinarians, veterinary technicians
- Deploy within 24 hrs when officially requested by State, self-sufficient for 72 hrs
 - Assess veterinary conditions, infrastructure
 - Gather data to deploy State resources
 - Establish base-of-operations for triage
 - Provide primary field care

A photograph showing three people in blue uniforms and hard hats working with boxes and equipment, likely in a field setting.

USDA-APHIS National Veterinary Accreditation Program March 2014 Center for Food Security and Public Health

VMAT Mission, Deployments

- **Mission**
 - Upon State request, provide operational emergency response and preparedness programs to State's animal health authorities, veterinary medical associations, organizations
- **Deployments**
 - 2000: NM wild fires
 - 2001: WTC collapse
 - 2005: Hurricanes Katrina, Rita



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

National Veterinary Response Teams (NVRT)


National Veterinary Response Teams (NVRT)

- **2007: National Disaster Medical System announced formation of NVRT**
 - Previous VMAT roles absorbed by NVRT
 - VMAT role transitioned to one of support: Infrastructure assessments during emergencies, educators in non-urgent times
- **Veterinarians, veterinary technicians, pharmacists, epidemiologists, others**
 - Activated for duty when needed as "intermittent" Federal employees
 - Veterinary assistance to local authorities

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

NVRT Responsibilities

- Assess veterinary medical needs, medical treatment, stabilization, care, support of animals
- Animal, zoonotic disease surveillance
- Public health assessments
- Assure food, water quality
- Part of NDMS
 - Responsible for recruitment, staffing
- More info:
 - Visit the Public Health Emergency website




USDA-APHIS National Veterinary Accreditation Program March 2014
 Center for Food Security and Public Health

State Level Emergency Programs

State Animal Response Teams (SART)

- Interagency organizations
- Preparing, planning, responding, recovering
- Public private partnership joining government with private concerns
- 1999: First SART founded in NC after Hurricane Floyd
- > 75% of States have a SART, Veterinary Medical Reserve Corps, equivalent



USDA-APHIS National Veterinary Accreditation Program March 2014
 Center for Food Security and Public Health

SART Programs

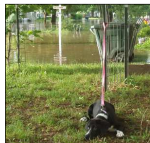
- Train participants to facilitate safe, environmentally sound, efficient response on local, county, state, federal level
- Organized under auspices of state, local emergency management
- Utilize principles of Incident Command System
- For more information visit the North Carolina SART website

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

State Level Responses

- 2005
 - Hurricane Katrina
- 2007
 - CA wild fires
- 2007
 - Flooding in OR, WA
- 2008
 - Midwest flooding
- 2011
 - TX wildfires

- 2011
 - Joplin, MO tornado
- Opportunities:
 - Visit the AVMA disaster website



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Other Organizations Involved in Animal Emergency Response

National Alliance of State Animal and Agricultural Emergency Programs

- NASAAEP: Framework for collaboration, communication, resource development, relationship building
- Members: State animal health, State response agencies (SARTs, VMRCs), NGOs, industry groups, others
 - Vision: Emergency planning/disaster response systems work together to maximize protection of people, animals, agriculture, public health, nation
- For more information visit the National Alliance of State Animal and Agriculture Emergency Programs website

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Non-Profit Organizations

- Animal welfare organizations involved in emergency response
 - American Humane Association (AHA)
 - American Society for Prevention of Cruelty to Animals (ASPCA)
 - Humane Society of the United States (HSUS)
 - International Fund for Animal Welfare (IFAW)
 - RedRover
- For additional information, visit the organizations' websites

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

National Animal Rescue and Sheltering Coalition (NARSC)


- 2006: Founded by national animal protection agencies
 - Use resources collaboratively, effectively
- Members continue to work on major issues
 - Developed working partnership to facilitate large-scale responses, address ongoing concerns
- For more information visit the National Animal Rescue and Sheltering Coalition website

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Response Coordination

- Most challenging aspect of response
- 1970: CA wildfire caused loss of 16 lives, 700 structures
- Congress mandated development of a better system: ICS
 - Incident Command System
 - Management structure for all types of incidents
 - Facilitate responses at national, regional, state, local levels

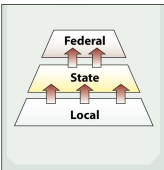


USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Organizing an Animal Health Emergency Response

Principles of Emergency Response

- Bottom-up system
 - First response: Local
 - Additional resources
- Sovereignty of states
 - Federal government involved when invited
- Specific agency/entity takes lead role based on emergency
 - Fires: Fire department
 - FAD outbreak: State ag department
 - Agroterrorism: Law enforcement



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

National Incident Management System (NIMS)

- NIMS: Template for all entities to use when preparing, responding
 - Large or small
- Addresses preparedness, communications, resource, incident management
- Core of NIMS = ICS
 - Organizing system
 - Veterinarians work within ICS during animal health emergency
- NRF, NIMS provide overarching support, coordination for large incident response

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

National Response Framework (NRF)

- Describes how U.S. government conducts all-hazards response
 - Overall framework that governs Federal response
- Actual resources controlled by different U.S. agencies
 - DHHS, Department of Transportation, Department of Agriculture
 - Resources needed usually located in multiple Federal agencies

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

NRF (cont'd)

1. Engaged partnerships
 - Effective preparation (essential to effective response) requires advance preparation
2. Tiered response
 - Incidents handled at lowest possible level
3. Scalable, flexible, adaptable operational capabilities
4. Unity of effort through unified command
5. Readiness to act
 - Visit the FEMA website for additional information


USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

National Incident Management System (NIMS) Major Components

National Incident Management System (NIMS)

- Balances 2 core principles
 - Flexibility
 - Standardization
- Specifies organizational structures, terminology
- Adapts to any situation
 - Local parade to multi-state FAD outbreak



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

NIMS Major Components

1. Preparedness: Essential for response
 - Procedures, protocols developed in advance, rehearsed, tested
2. Communications, Information: Reliable, resilient, scalable, ideally movable
 - Interoperability between agencies, jurisdictions
3. Resources: Identifying, certifying/credentialing, inventorying
 - Identify needs, order/acquire resources, mobilize, track/report resource use

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

NIMS Major Components (cont'd)

- 4. **Command & Management: Core of NIMS**
 - May need Multiagency Coordination System
 - Public information
- 5. **Ongoing Management & Maintenance: National Integration Center (NIC)**
 - NIMS compliance, credentialing, publications
 - NIC, DHS oversee/coordinate research, development of technology
- For more info on NIMS, visit the FEMA website

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Incident Command System (ICS)

Incident Command System (ICS)

- NIMS, NRF created after ICS based on success in coordinating responses
- Key management characteristics
 - Common terminology
 - Management by objective
 - Incident action planning
 - Manageable span of control
 - Chain and unity of command
 - Accountability
- Flexible and adaptable
- One individual may fill multiple roles

```

graph TD
    IC[Incident Commander] --- SO[Safety Officer]
    IC --- LO[Liaison Officer]
    IC --- PIO[Public Information Officer]
    IC --- OS[Operations Section]
    IC --- PS[Planning Section]
    IC --- LS[Logistics Section]
    IC --- FAS[Finance/Admin. Section]
            
```

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Incident Commander

- Selects objectives, all aspects of response
- Creates additional command positions
- Limited: One Incident Commander
- Multiple agencies: Unified Command
 - FAD response in single state:
 - APHIS Veterinary Medical Officer, SAHO
 - form Unified Command

```

graph TD
    IC[Incident Commander] --- PIO[Public Information Officer]
    IC --- SO[Safety Officer]
    IC --- LO[Liaison Officer]
    PIO --- OS[Operations Section]
    PIO --- PS[Planning Section]
    PIO --- LS[Logistics Section]
    PIO --- FAS[Finance/Admin. Section]
    
```

USDA-APHIS National Veterinary Accreditation Program March 2014
Center for Food Security and Public Health

Command Staff

- Public Information Officer
 - Communicates timely, accurate information
- Liaison Officer
 - Point of contact
- Safety Officer
 - Monitors activities/working conditions

```

graph TD
    IC[Incident Commander] --- SO[Safety Officer]
    IC --- LO[Liaison Officer]
    IC --- PIO[Public Information Officer]
    SO --- OS[Operations Section]
    SO --- PS[Planning Section]
    SO --- LS[Logistics Section]
    SO --- FAS[Finance/Admin. Section]
    
```

USDA-APHIS National Veterinary Accreditation Program March 2014
Center for Food Security and Public Health

General Staff

- Operations
 - Deals directly with emergency (veterinarians)
- Planning
 - Collects/analyzes information, reports to IC, prepares/documents Incident Action Plan
- Logistics
 - Supplies, facilities, food, communications, transportation
- Finance/Administration
 - Provides administrative support (contracts, compensation, cost analysis)

```

graph TD
    IC[Incident Commander] --- SO[Safety Officer]
    IC --- LO[Liaison Officer]
    IC --- PIO[Public Information Officer]
    SO --- OS[Operations Section]
    SO --- PS[Planning Section]
    SO --- LS[Logistics Section]
    SO --- FAS[Finance/Admin. Section]
    
```

USDA-APHIS National Veterinary Accreditation Program March 2014
Center for Food Security and Public Health

ICS Operations

- Save lives, reduce hazard, protect property, restore to normal
- Large incidents: Divided into Divisions/Groups
- Span of Control
 - 1 supervisor oversees 3 to 7 individuals/units
 - If >7, new supervisor position created
- Branch may be formed
 - Collection of Divisions/Groups

```

graph TD
    OS[Operations Section] --> B[Branches]
    B --> D[Divisions]
    B --> G[Groups]
    D --> ST1[Strike Team]
    D --> TF1[Task Force]
    G --> ST2[Strike Team]
    G --> TF2[Task Force]
            
```

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Veterinarians in Operations

- Task force
 - Combination of resources with mission
 - Ex: Depopulation or disposal 'task force'
- Strike team
 - Group with same kind/type of resources
 - Ex: Diagnostics on multiple farms; examine sheltered animals
- More information on ICS, visit the OSHA website
Free online courses describing ICS found on the FEMA training website

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

National Animal Health Emergency Management System (NAHEMS)

NAHEMS

- 1996: Established by USDA-APHIS Veterinary Services
 - Improve United States' ability to respond to animal health emergencies
- Includes Federal, State, Tribal, local governments, industry, academia, volunteer organizations
- Provides operational framework for local, regional, national responses

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Foreign Animal Disease Preparedness and Response Plan (FAD PReP)

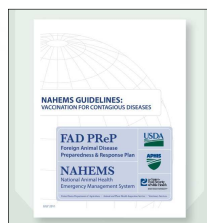
- Raise awareness, expectations, develop capabilities for FAD preparedness, response
 - Comprehensive strategy for FAD threats
- 3 key response goals
 1. Detect, control, contain FAD
 2. Eradicate FAD while stabilizing animal agriculture, food supply, economy, and protect public health
 3. Provide science-, risk-based approaches, systems to facilitate continuity of business for non-infected animals, products

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines and Standard Operating Procedures

- Foundation for coordination
- Integrated into other preparedness plans
- SOPs
 - 'How to' carry out various activities
- Guidelines
 - Principles for making sound decisions
 - Deviations as needed
- Comments welcomed



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Accredited Veterinarians' Role in ICS

Accredited Veterinarians' Role in ICS

- Serve in variety of roles, depending on previous training, experience
- Generally in Operations Section
 - Group Supervisors
 - Team Leaders
 - Team Members

USDA-APHIS National Veterinary Accreditation Program March 2014 Center for Food Security and Public Health

Group Supervisors

- Extensive training/experience in their area
- Coordinate activities with other groups
 - Ex: Biosecurity, Depopulation, Carcass Disposal
- Responsibilities:
 - All Teams, Members on an activity
 - Appointing Team Leaders, assigning personnel
 - Verifying clearances, qualifications of personnel
 - Identifying, implementing training, orientation
 - Preparing and communicating site-specific plans
 - Determining/ensuring resource availability
 - Issuing contracts, briefings, reports

USDA-APHIS National Veterinary Accreditation Program March 2014 Center for Food Security and Public Health

Team Leaders

- Reports to Group Supervisor
 - Assist with duties
- Responsibilities:
 - Number, type of resources
 - Policies and procedures
 - Notify Group Supervisor of problems
 - Ensuring compliance
 - Communication and coordination
 - Preparing briefings for Group Supervisor, Team Members



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Team Members

- Assigned to functional activities
- Assist Team Leaders
- Responsibilities:
 - Carry out operational activities under supervision of Team Leader
 - Adhere to all procedures
 - Keep responder safety as priority
- “Boots on the ground”

USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Overview of FAD PReP/NAHEMS Guidelines

FAD PReP/NAHEMS Guidelines: Quarantine and Movement Control

- Helps prevent spread of highly contagious diseases
 - Consequence of movement of live animals, animal products, fomites
- Highly contagious FADs
 - Diseases not found in U.S., designated as reportable by OIE
- Quarantines
 - Implemented to stop movement
- Movement controls
 - Allow specific movements under supervision

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Surveillance, Epidemiology, and Tracing

- Surveillance, epidemiology, tracing components implemented quickly
 - Provide understanding of situation, enable earliest, most appropriate intervention
- Data analysis, interpretation
- Epidemiology response
- Tracing considerations
- Electronic data management

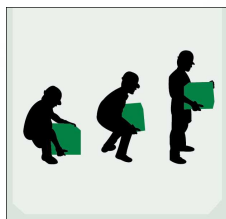


USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Health and Safety

- Following proper work procedures
- Recognizing/reporting unsafe conditions
- Reviews physical, environmental, psychological issues
- Pre-deployment preparation
- Demobilization



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Personal Protective Equipment (PPE)

1. Protection of responder against hazards
2. Prevention of spread of hazards between animals/locations
 - PPE available, levels of protection
 - Selection in various settings, based on hazard assessment
 - Donning, doffing PPE



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Biosecurity

- Management practices to prevent introduction of disease agents
 - Zoonotic: Protect health of responders, public
- Consider disease agent, routes of transmission, common hazards, minimum levels of PPE needed
- Establishment/enforcement of 'work zones' to control access
- Premises visits, clothing, animal contact



USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Vaccination for Contagious Diseases


- Implemented to control disease spread
 - Minimize disease impact on animal, public health, ensure continuity of food supply, minimize economic impact
- Necessary information to conduct large-scale vaccination
 - State, Federal animal health officials, other stakeholders determine vaccines to use, which animals vaccinated
 - Proper vaccine handling, storage
 - Handle animals safely, effectively
 - Records, identification

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Mass Depopulation and Euthanasia


- Help prevent, mitigate disease spread
- Individuals must perform procedures quickly, safely, humanely
- Selection of euthanasia method by animal species
- Practical methods
- Documenting controlled substance use
- Human psychological/behavioral aspects



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Disposal


- Eliminate carcasses, materials resulting from animal health incident
 - Timely, safe, biosecure, aesthetically acceptable, environmentally responsible
- Disposal site selection, procedures
- Four common methods: Rendering, burial, incineration, composting



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

FAD PReP/NAHEMS Guidelines: Cleaning and Disinfection (C&D)

- Prevents pathogen spread, reduces number of pathogens on premises
- Disinfection methods, selection, consideration, evaluation
- Team Member orientation
 - Nature of disease, hazards encountered
- Safety precautions
 - Chemical, physical, and environmental hazards
 - PPE



USDA-APHIS
National Veterinary Accreditation Program
March 2014
Center for Food Security and Public Health

Accessing FAD PReP/ NAHEMS Resources

- Additional training essential
- FAD PReP/NAHEMS resources available
 - Finalized Guidelines
 - Visit the Center for Food Security and Public Health (CFSPH) website
 - Guidelines under revision, SOPs
 - Visit the FAD PReP website (username, password can be requested)
 - PowerPoints, Tactical Topics available
 - Web-based training modules
 - For more information visit the NAHERC Training website

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Summary

- Components of animal health emergency response
- Many opportunities to get involved
 - Local, State, Federal levels
 - Various organizations, agencies
- Importance of response coordination
 - NRF, NIMS, ICS, ESF
- FAD PReP/NAHEMS Guidelines
- Training and passion

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Supplemental Training

- This informational presentation has been approved expressly to serve as one unit of supplemental training for participants in USDA's NVAP
- Please ensure you complete, sign and retain a certificate stating that you attended this presentation
- Contact your APHIS Veterinary Medical Officer for more details

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Acknowledgments

- Prepared by the Center for Food Security and Public Health at the College of Veterinary Medicine, Iowa State University. Authors include
 - Tegwin K. Taylor, DVM, MPH
 - Kevan P. Flaming, DVM, PhD
 - Danelle Bickett-Weddle, DVM, MPH, PhD, DACVPM
 - Megan Smith, DVM
 - Shaine DeVoe, BS
- Illustrations designed by:
 - Andrew Kingsbury, BFA
 - Dani Ausen, BFA
 - Katiyn Harvey, BFA
- Reviewed within USDA-APHIS-VS by:
 - Todd Behre, DVM, PMP
 - Timothy Cordes, DVM
 - Clement Dussault, VMD
 - Jamie Snow, DVM, MPH
 - Jonathan Zack, DVM
- Other reviewers
 - Arnold Goldman, DVM, MS; Director CT SART
 - Heather Case, DVM, MPH, DACVPM; AVMA and VMAT
 - Carla Huston, DVM, PhD, DACVPM; NVRT and MS SART
 - David Maples; CDC
 - Carol Rubin, DVM, MPH; CDC



The content has been reviewed and approved by **USDA-APHIS Legislative and Public Affairs**

USDA-APHIS
National Veterinary Accreditation Program

March 2014
Center for Food Security and Public Health

Questions?

The NVAP website can be found by typing "NVAP" into your search engine.

IOWA STATE UNIVERSITY*
College of Veterinary Medicine
