

# An Introduction to Animal Decontamination

World Association for Disaster and Emergency  
Medicine (WADEM) Congress

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# American Veterinary Medical Association (AVMA)

- Established 1863
- The “voice” of the veterinary profession in the US
- Over 89,000 members (Membership is voluntary)
- Full time staff of ~150 employees
- 6 Councils, 23 Committees (volunteers)
  - Committee on Disaster and Emergency Issues

# **AVMA Vision and Mission**

## **Vision**

The American Veterinary Medical Association's vision is to be the trusted leader in protecting, promoting and advancing a strong, unified veterinary profession that meets the needs of society.

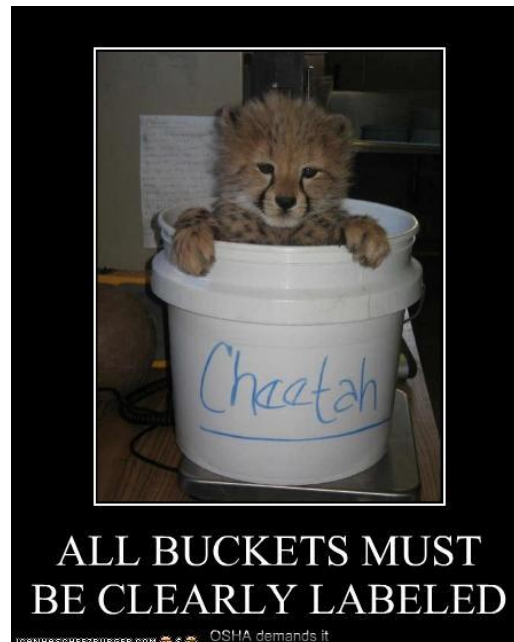
## **Mission Statement**

The mission of the Association is to lead the profession by advocating for its members and advancing the science and practice of veterinary medicine to improve animal and human health.



# DISCLAIMER

- Ideas, attitudes, and opinions presented are our own and do not necessarily reflect the opinions of AVMA



# OBJECTIVES

- Responder safety and use of personal protective equipment (PPE) when working with potentially contaminated animals
- Considerations for planning and working with other agencies
- Challenges associated with animal decontamination such as which animal species were affected and who has regulatory authority
- Ways to incorporate animal decontamination using existing equipment

# WHY ANIMAL DECONAMINTION?

(1 of 3)

- For human health and safety (responder, owner, transporter, shelter worker)
  - People may not evacuate if they can not take their animals
- For animal health and safety
- To prevent contamination from spreading to other humans, animals, equipment, or areas
- To be able to re-use equipment

**Human health and safety must always  
come first!**



*AP Photo/Bob Jordon*

# WHY ANIMAL DECONAMINTION?

(2 of 3)

## Canada

### Agriculture and Agri-food system (2014)

- \$108.1 billion (6.6% Gross Domestic Product)
- Provides 1 out of 8 jobs
- World's 5<sup>th</sup> largest agriculture and agri-food system exporter
- Cattle - 12,065,000 (January 2017)
- Sheep – 814,600 (January 2017)

### Pet Market

- \$6.6 billion in 2014

### Toronto (2016 Canadian pet survey)

- 41% households own 1 Dog x 1,047,880 households (2011 census) = 429,630 Dogs
- 37% households own 1 Cat x 1,047,880 = 387,715 cats



# WHY ANIMAL DECONAMINTION?

(3 of 3)

**Animals are important and integral to our lives.**



**All Photos-Source:  
AP**



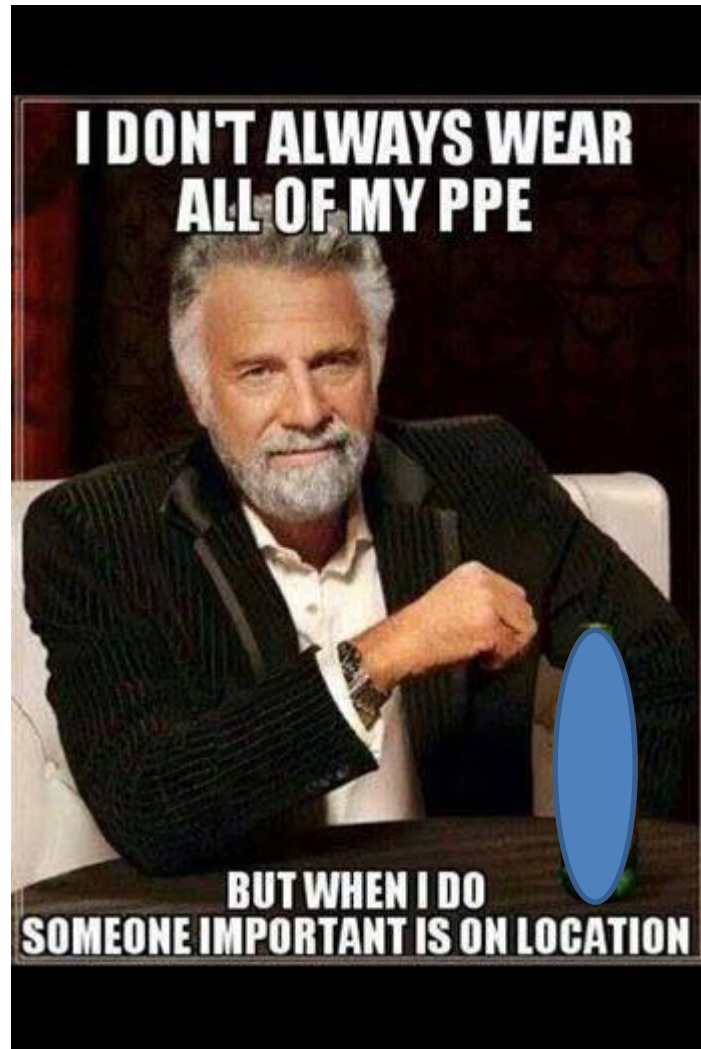
**Koji Sasahara/AP Photo**

# OBJECTIVE 1

Responder safety and use of personal protective equipment (PPE) when working with potentially contaminated animals is a requirement for success!



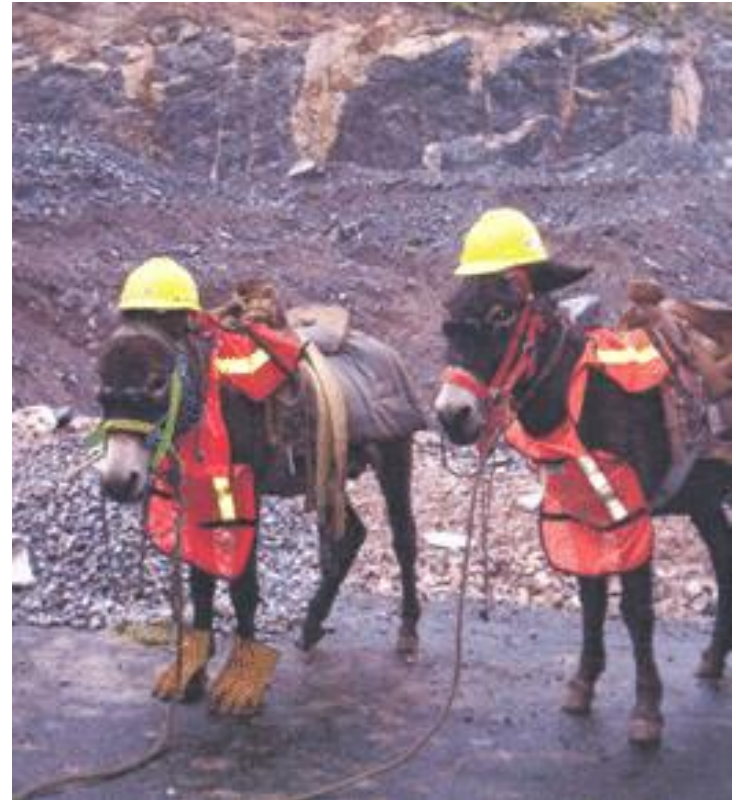
# DO NOT HAVE THIS TYPE OF SAFETY ATTITUDE!!!



# Responder Safety

## It MUST ALWAYS Be Number 1!!!

- Think before you act.
- Rely on your training.
- Do you really know what that animal has been exposed to?!?!?
- Clinicians, you are NOT in the clinical setting – need to adjust your PPE protocols.
- Follow the Pre-Plan SOPs but....  
...allow for the unexpected.
- **You** are the #1 asset in ALL human and animal issues – no exceptions!



# OBJECTIVE 2

Considerations for planning and working with other agencies:

***“You will respond together the way you train together”***

# INTRO TO ANIMAL DECON

## Regulatory Influence

- Is there Regulatory Authority for performing HazMat Pre-Planning?
- Is there an identified local lead authority by law at a HazMat Incident?
- Does a comprehensive and current HazMat Pre-plan already exist?
- Are animals currently addressed:
  - Companion/Service/Working
  - Food vs. Farm
- Have all known potential animal issues been identified?
- Is Animal Decontamination addressed?
- What are your minimum training requirements by regulation/law?
- Is training of ALL response personnel addressed in the pre-plan?
- Is the appropriate level of training, including human decon, provided to all response personnel?
- Refresher training?

# INTRO TO ANIMAL DECON

## PRE-PLANNING → CONTINUITY

- Train all Responders in the same National Incident Management System
- Ensure all Response Agencies function within the same Incident Management System from notification until the incident is.....
- Establish levels of Animal Decontamination based on the needs of the incident & clearly define in the Pre-Plan:
  - **Example: Level 1 - Level 2 - Level 3**
- Perform periodic inventory of animal populations in response jurisdiction
- Perform a vulnerability analysis on each population and transportation route with the aid of current information gathered and available e.g. AVMA published info.
- Establish a Basic Equipment List (BEL) for each response level and include in the Pre-Plan

# INTRO TO ANIMAL DECON

## PRE-PLANNING → CONTINUITY

- Determine how and where the equipment will be stored until it is needed as well as who the responsible parties shall be.
- What if the personnel that will be performing the animal decontamination do not have the proper PPE?
  - **Sign agreement with other agencies to use their equipment**
    - Possible but many legal issues with this i.e. personnel must train, test and be certified on specific equipment they will use during response.
  - **Purchase new equipment**
- Is training equipment available?
- Are live animals available for real time training? With their handlers?

# INTRO TO ANIMAL DECON

## PRE-PLANNING → CONTINUITY

- By law, who is in charge in your planning/response jurisdiction when animals are involved in an emergency incident?
  - Does it depend on the type of incident or the classification of animal?
- How is the Standard of Care affected, if at all, when the animal is a:
  - Companion Animal
  - Service Animal
  - Working Animal
  - Food Animal
- These issues must be thoroughly researched and addressed prior to responding to any emergency.

# INTRO TO ANIMAL DECON

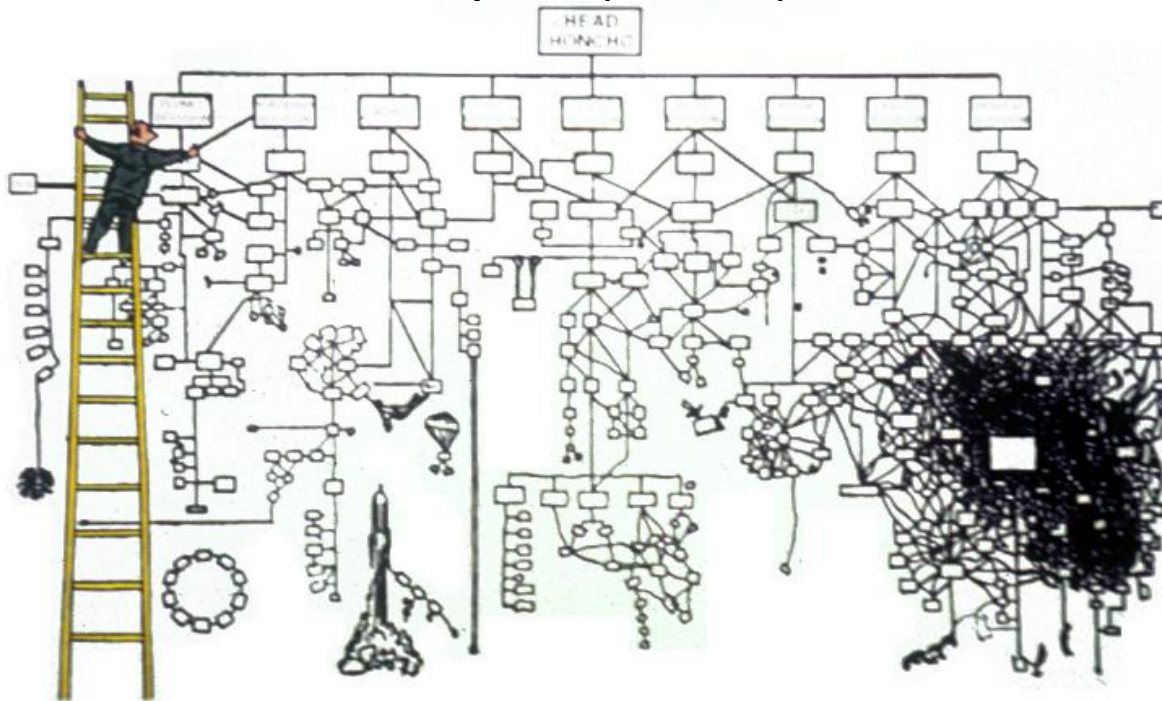
## PRE-PLANNING → CONTINUITY

- Animal Decon Operations are generally made up of personnel from either a separate organization or a combination of Emergency Response Organizations or both.
- Animal Decon Ops MUST train together as a team and then with ALL Emergency Response Services/Organizations.
  - Exercise/Activate that portion of the Pre-Plan that applies to each emergency response organization participating in the training.
- Have a brief after action review with the participants:
  - Was the pre-plan accurate?
  - Will it work in a true emergency?
  - Was anything overlooked?
  - There will always be room for improvement.

# OBJECTIVE 3

## Challenges associated with animal decontamination...dealing with

fur, hair, wool, scales, feathers, wings, fangs, talons,  
paws, claws, and hooves



# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (1 of 8)

- Depending on the hazard and overall incident, is animal decontamination needed?
- Has any agency such as fire department, hazardous materials specialists, or laboratory determined what the hazard(s) is?
- Is it chemical, biological, radiological, or mix?
- What businesses and industries are in the area?



*Wal-Mart Canada Supercube Tractor Trailer*

# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (2 of 8)

- Who has the statutory/regulatory authority for each species to determine how clean is clean enough for that incident?
- How clean is clean enough?
- Will the public or industry agree with or accept those levels?



Emotional Support Turkey  
in seat on Delta flight by  
Imgur

# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (3 of 8)

## Statutory/Regulatory Authority

How clean is clean enough? Who decides?

- Canada - Canadian Food Inspection Agency, Canadian Wildlife Services, Canadian Environmental Assessment Agency, Public Health Agency of Canada, Atomic Energy of Canada Limited, etc.
- U.S. - Department of Agriculture/Interior/Energy, Food and Drug Administration, Environmental Protection Agency, Centers for Disease Control and Prevention, etc.
- Government of Japan - Ministry of Agriculture, Forestry, and Fisheries; Ministry of Environment; Ministry of Health, Labour and Welfare; Nuclear Regulation Authority, etc.
- Provinces/Territories/Prefectures/States
- Industry

Public or Industry perception of “clean” level



# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (4 of 8)

- Does the type of incident set the priority of animal species to be decontaminated?
  - Mass Care or Mass Casualty incident
  - Only working and service animals
  - Impacted area - urban, suburban, rural, farms, game ranches, wildlife preserve, event grounds (racetrack, fairgrounds, rodeo)
  - Time of day
  - Season
- Which animal species and how many of each species need to be decontaminated?
- Do certain animal species categories have priority over others?
  - Owned versus stray

# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (5 of 8)

## Species Categories

- Working and service dogs and horses
- Household pet
- Household pets in facilities - kennels, pet stores, shelters, breeders, animal rescue organizations, veterinary clinics
- Livestock (beef, dairy, sheep, goats, pigs) including backyard\* livestock
- Poultry including backyard\* poultry
- Horses
- Wildlife
- Exotic animals
- Zoo and Aquarium animals
- Research animals

\*Backyard indicates non-commercial



***Ducgator***

# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (6 of 8)

## Handling Animals

- People may have fears or allergies to certain animals
- Most animals are not familiar with people in PPE
- Stressed animals may be more aggressive or submissive
- Teeth, claws, talons, and hooves can puncture or tear PPE
- Need people knowledgeable about animal behavior and handling in stressful situations such as animal control officers, groomers, animal behaviorists, veterinarians, and veterinary technicians to be part of planning and decontamination lines

# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (7 of 8)

## What is the route of exposure?

- Inhalation/Respiratory
- Oral/Ingestion – grooming or licking or consuming contaminated water or food
- Eyes
- Skin
- Paws/hooves/feet/talons

How much protection does fur, hair, wool, feathers, or scales provide?

Is it possible to do spot decontamination versus whole body decontamination?

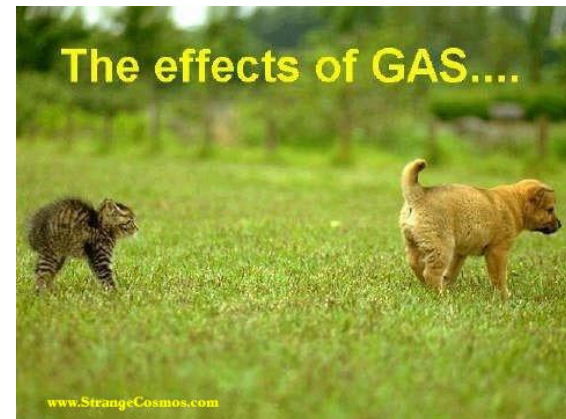
# CHALLENGES ASSOCIATED with ANIMAL DECONTAMINATION (8 of 8)

## How will the animal be handled after decontamination?

- Animal should be re-triaged prior to releasing to the owner or before transporting to shelter
- Ability to treat life, limb, eyesight injuries post-decontamination before transport to a higher level of veterinary medical care
- Depending on the hazard, post-decontamination monitoring may be required and a holding area established and staffed

# OBJECTIVE 4

## Ways to incorporate animal decontamination using existing equipment



# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (1 of 9)

## What is the Plan?

- Will animals be decontaminated for this incident?
- Will all humans be decontaminated first and then all the animals?
  - Need a staffed and equipped pre-decontamination animal holding area
- Is animal decontamination dependent of available resources?
- Will animals and humans be kept together going through the same decontamination line or through different decontamination lines at the same time?
- Who will decontaminate the animal – owner, trained responder, or both?
- If the owner and animal are separated, how will the owner and animal be reunited post-decontamination?
- What happens with dying/dead animals?

# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (2 of 9)

- Current animal decontamination recommendations are extrapolations from human decontamination protocols
  - Soap and copious amounts of water



# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (3 of 9)

## General Procedure for a Dog

*Assumes single dog has been triaged and is healthy and easy to handle*

*Assumes plenty of warm water available*

1. Rinse the dog thoroughly with plain warm water beginning at the head along the back and to the tail; then rinse down the dog's sides, chest, stomach, legs, and paws.
  2. Work the soap into the hair starting with the head, along the back and to the tip of the tail; next work down the animal's sides, chest, and abdomen, legs, and paws. Ensure the soap reaches the dog's skin. If the dog has erect ears, flush the ears with otic solution or water.
- ❖ NOTE: Special attention should be paid to the dog's stomach, face, ears, eyes, under its tail, paws, and in between legs to ensure all contamination is removed.

# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (4 of 9)

## General Procedure for a Dog (continued)

3. Flush the eyes with copious amounts of water, ophthalmic solution, or sterile saline.
4. Rinse with plain water using the same pattern as the initial rinse (head to back to tail, then down sides, chest, stomach, legs, and paws).
5. Allow the dog to shake off excess water. A tarp or other impervious material may be placed around the dog while it shakes to prevent contamination of other people, dogs, or equipment.
  - ❖ NOTE: Steps 1-5 may need to be repeated until all contaminants are removed.
6. Dry the dog with clean towels or other absorbent cloth material.

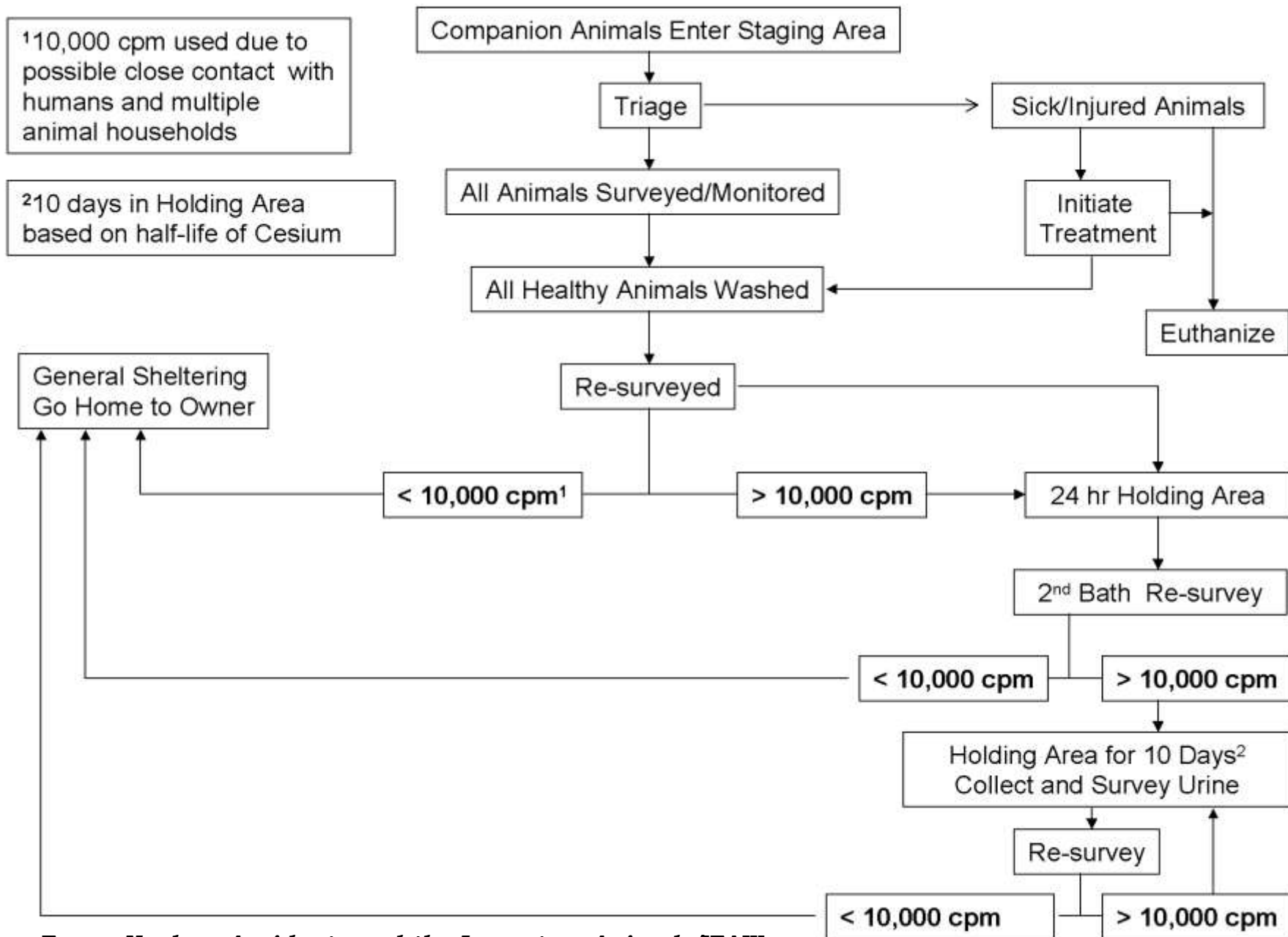
# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (5 of 9)

## Animal Decontamination Decision Trees

- The International Fund for Animal Welfare (IFAW) posted guidelines presented to the Government of Japan following the March 11, 2011 earthquake/tsunami/Fukushima Daiichi Nuclear Power Plant accident that outlines decision trees for companion animals, livestock, and wildlife removal from the radiologically impacted area.

- *Nuclear Accidents and the Impact on Animals*

<http://www.ifaw.org/sites/default/files/IFAW-nuclear-accidents-impact-animals-decontamination-2014.pdf>

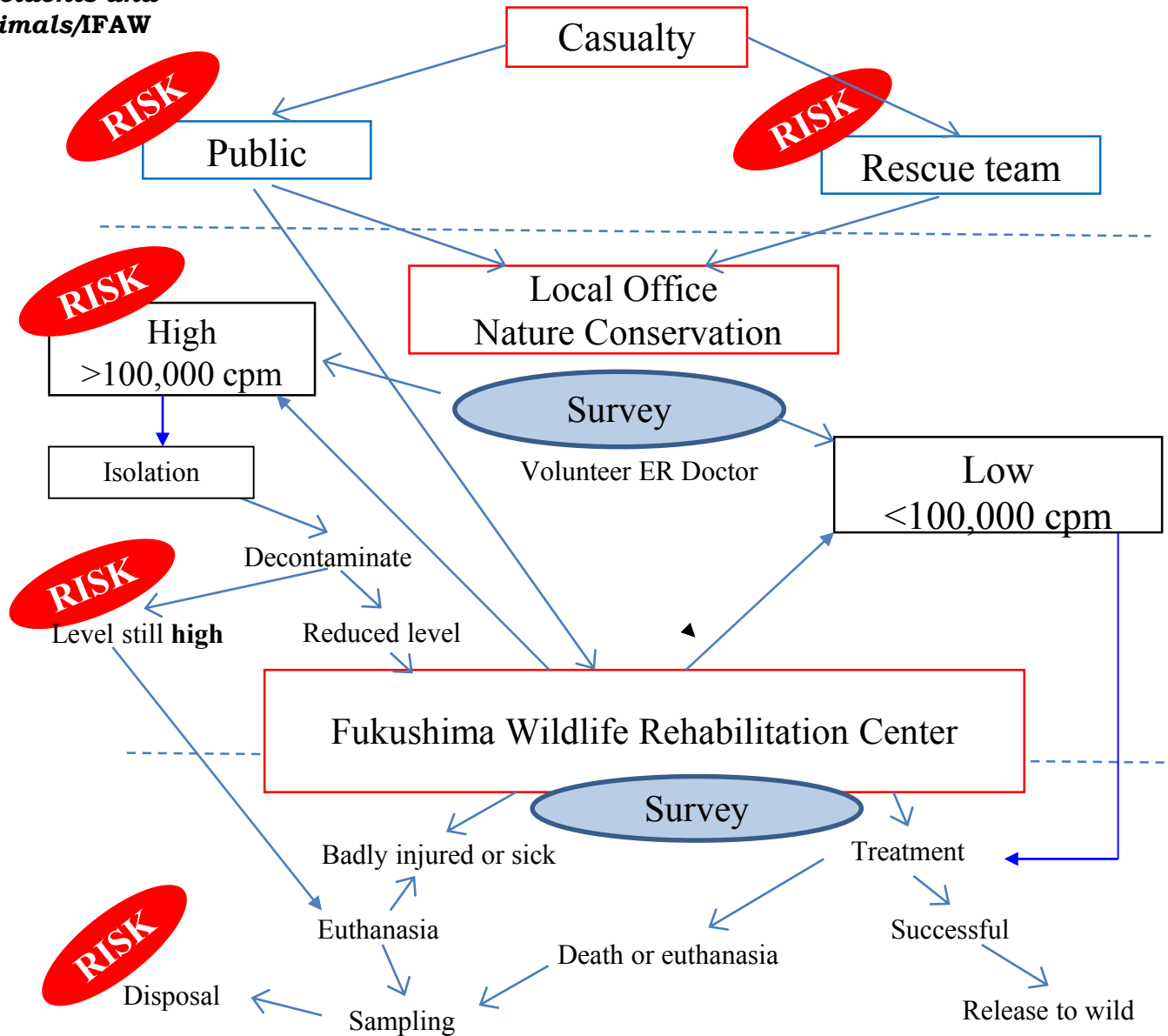


**From: Nuclear Accidents and the Impact on Animals/IFAW**

Outside 30km Zone

20-30km Zone

**From: Nuclear Accidents and  
the Impact on Animals/IFAW**



# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (6 of 9)

## What is Available for Animal Decontamination?

- Personnel
  - Trained – triage, intake, **technical guidance on animal behavior and handling during decontamination**
  - Physically fit to be in correct Personal Protective Equipment (PPE) for hazard(s)
  - Fit tested for required respiratory protection
  - Numbers – do you have enough responders to rotate in and out decontamination line; allow rest and eating/rehydration periods; **injuries**; keep the line continually active; and be able to adapt if the weather changes?

# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (7 of 9)



## What is Available for Animal Decontamination?

- Equipment
  - Human decontamination lines (roller system), car wash, pool, dip tanks, tubs/small pools for small animals
  - Additional Equipment: cages/carriers (one for decontamination process and one for transportation after decontamination), cat restraint bags, leashes, brushes, muzzles, towels or cage dryers

Hozone Cat  
Washing Shower  
Mesh Bags



Shaws Port-A-Pet  
Cardboard  
Carriers (UK)



# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (8 of 9)

## What is Available for Animal Decontamination?

- Supplies
  - Water – ability to keep the water at an acceptable temperature, access to a lot of water
  - Soap – what kind(s) of soap is available, amount on hand

NOTE: Blue Dawn is the gold standard for oiled birds. There is no gold standard soap for other animal species or other chemically, biologically, and radiologically contaminated birds

- Correct PPE – various sizes, enough for the expected operation, duct tape



# WAYS to INCORPORATE ANIMAL DECONTAMINATION using EXISTING EQUIPMENT (9 of 9)

## What is Available for Animal Decontamination?

- Supplies (continued)
  - Method to contain and capture hazardous waste run off from decontamination
  - Method to remove hazardous run off when collection container is full
  - Vegetable oil or lighter colored oil for thick oil or tar-like substances
  - Alternative to soap and water – could sand, dirt, or rags be used for initial expedient decontamination?
  - Name tag or tracking system to follow the animal from intake through post-decontamination

# OBJECTIVES

- Responder safety and use of personal protective equipment (PPE) when working with potentially contaminated animals
- Considerations for planning and working with other agencies
- Challenges associated with animal decontamination such as which animal species were affected and who has regulatory authority
- Ways to incorporate animal decontamination using existing equipment

# CONCLUSION

- Safety First!
- Animal decontamination is a complex and multi-faceted operation that involves coordination between many organizations and agencies.
- Sustained and adequate funding is needed to develop, test, and evaluate animal decontamination protocols using different methods and techniques, equipment, and “soaps” to determine best practices for various hazardous agents.

# QUESTIONS

# CONTACT INFORMATION

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# BACKUP SLIDES

# Identifying Stakeholders and Responsible Agency for Animals

**Stakeholders include but are not limited to:**

- Local emergency management
- Human sheltering
- Animal control/animal services
- Animal shelters
- Animal humane societies
- Animal rescue groups
- Public health
- Veterinarians and veterinary technicians
- Animal supply stores
- Law enforcement/fire department
- County extension agents
- Animal/kennel clubs
- Animal boarding
- Livestock associations
- Agricultural industry
- Livestock/Poultry industry

# Projecting Animal Demographics

## Projecting Animal Demographics in a Nuclear or Radiological Emergency

IND Response and Recovery Planning Animal Work Group (FEMA)

<https://asprtracie.hhs.gov/technical-resources/resource/2853/projecting-animal-demographics-in-a-nuclear-or-radiological-emncy>