



Pathology, Prognosis and Recovery in Veterinary Disaster Response: Recognition and Resilience



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The logo for Jamboard, featuring the word "Jamboard!" in a colorful, rounded font. The letters are blue, green, yellow, orange, purple, blue, green, yellow, and orange, respectively, with an exclamation mark at the end. The logo is set against a black rectangular background.

Jamboard!

https://jamboard.google.com/d/1URqxzaHTI7v8NcGYmk7BMwqZOhv_8znPnHJQiivH6ts/edit?usp=sharing



Learning Objectives

- Identify appropriate resources and approach for information acquisition during events.
- Understand event assessment process and prioritization of resources during events.
- Evaluate risk and threats to both animals and human health and safety and navigate strategies to minimize impact.
- Develop good trauma-stewardship that protects self and others during events.
- Generate decompression strategies for post-event impact for self and others.



Posted on: August 8, 2023

Brush fire in Kula causes evacuation of residents early this morning

Shortly after midnight this morning, a brush fire was reported in the Olinda Road area of Kula. Residents in the Auli'i Drive area were evacuated at 3:45 a.m. At 4:50 a.m. residents of Hanamu Road were also evacuated. Firefighter crews from Kula, Makawao, Kahului, and Wailea are on scene. The Fire Department's Air One helicopter was launched at daybreak to conduct aerial assessment of the fire.



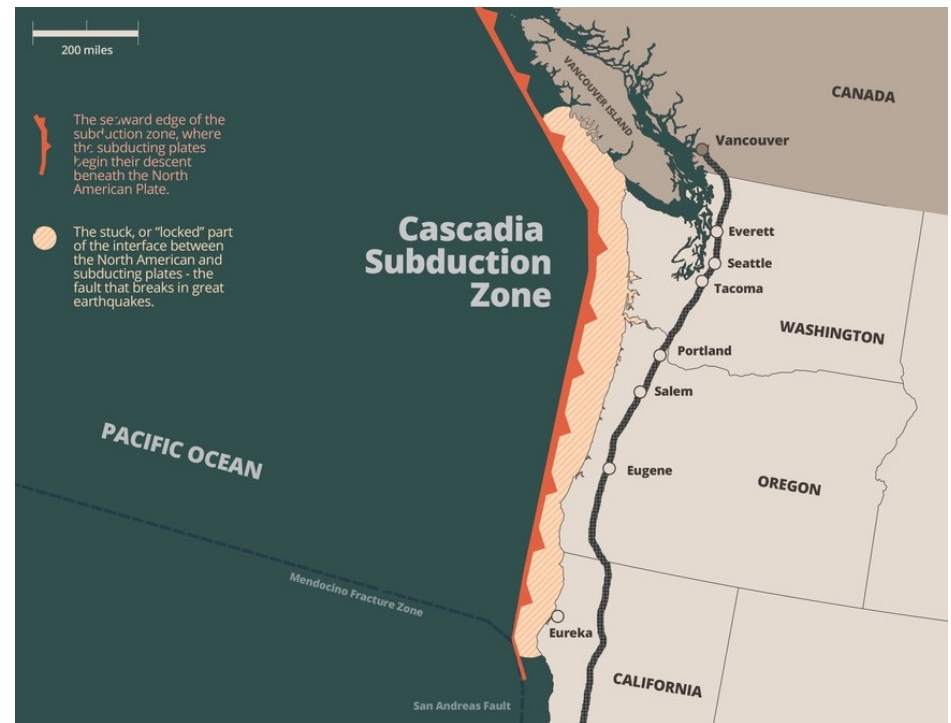
<https://bigislandnow.com/2022/11/09/west-maui-brush-fire-burns-1200-acres-and-threatens-subdivision/>



What's going on?

Oregon Hazards

- Be familiar with the hazards in your area!
- Be familiar with local and state emergency plans (especially the animal sections)!
- Oregon Office of Emergency Management Hazards in Oregon



<https://www.noaa.gov/jetstream/tsunamis/tsunami-locations/jetstream-max-cascadia-subduction-zone>

Emergency Notifications

Shake[!]AlertTM

Earthquake early warnings for Washington, Oregon, and California. Sign up [here](#)!

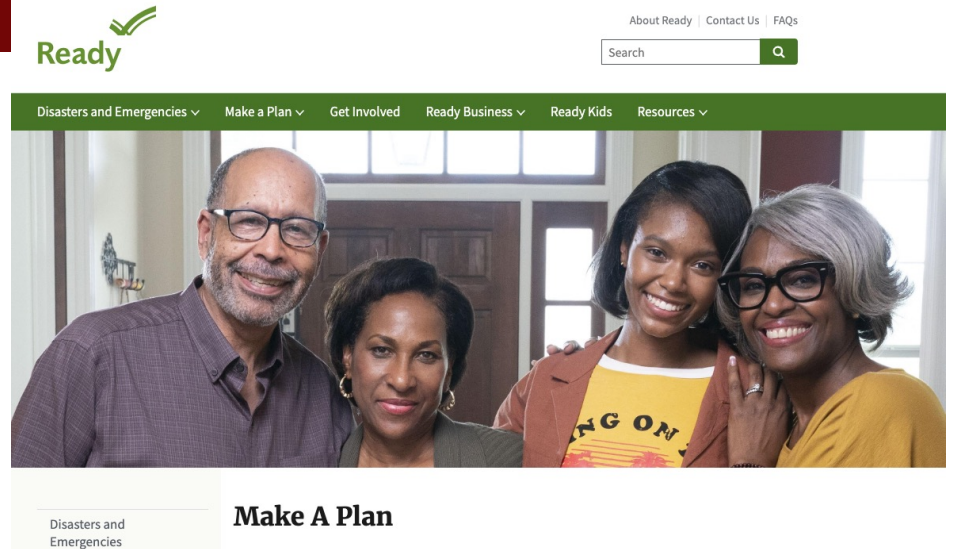


[OR-Alert](#): Oregon state emergency notifications



Personal Preparedness

- Family/Practice Plan (including pets)
- Personal go-bags
- Good physical health
 - Work in austere environments for long hours
 - Able to stand for long periods of time
 - Able to lift/carry ~50 lbs
 - Ability to sleep/rest on site
 - Know your own limits!



[FEMA Ready.gov](https://www.ready.gov)

[FEMA Build a Kit](#)

[AVMA Clinic Disaster Plan](#)



What's next?

Jamboard! 



Incident Assessment

How and where do you gather **trusted** information?

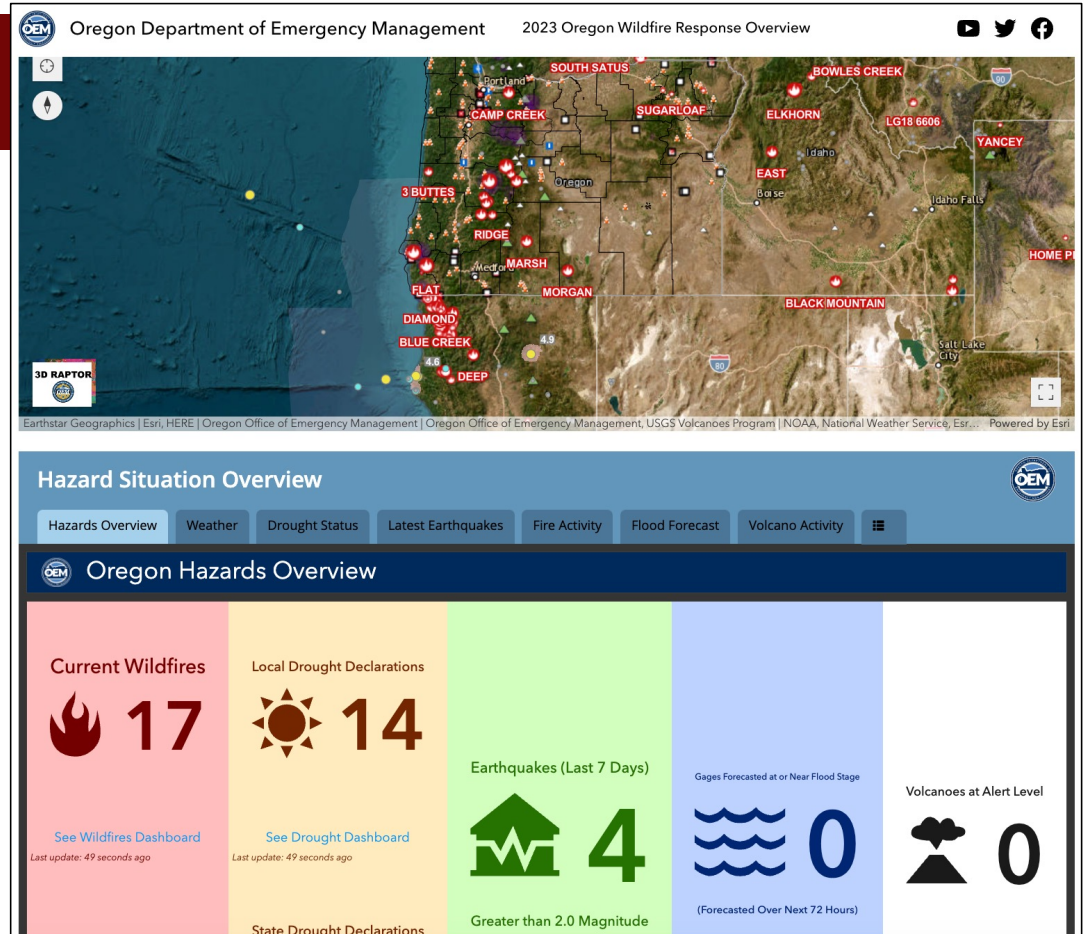
- Local emergency notification systems*
- **Local emergency management (EM) office**
- State Office of Emergency Management/Services
- State Department of Food and/or Agriculture
- Volunteer organizations (Watch Duty, American Red Cross, Voluntary Organizations Active in Disasters (VOAD))
- **Lead animal response entity/representative****

***Make sure you are
using a trusted source
of information!***



RAPTOR

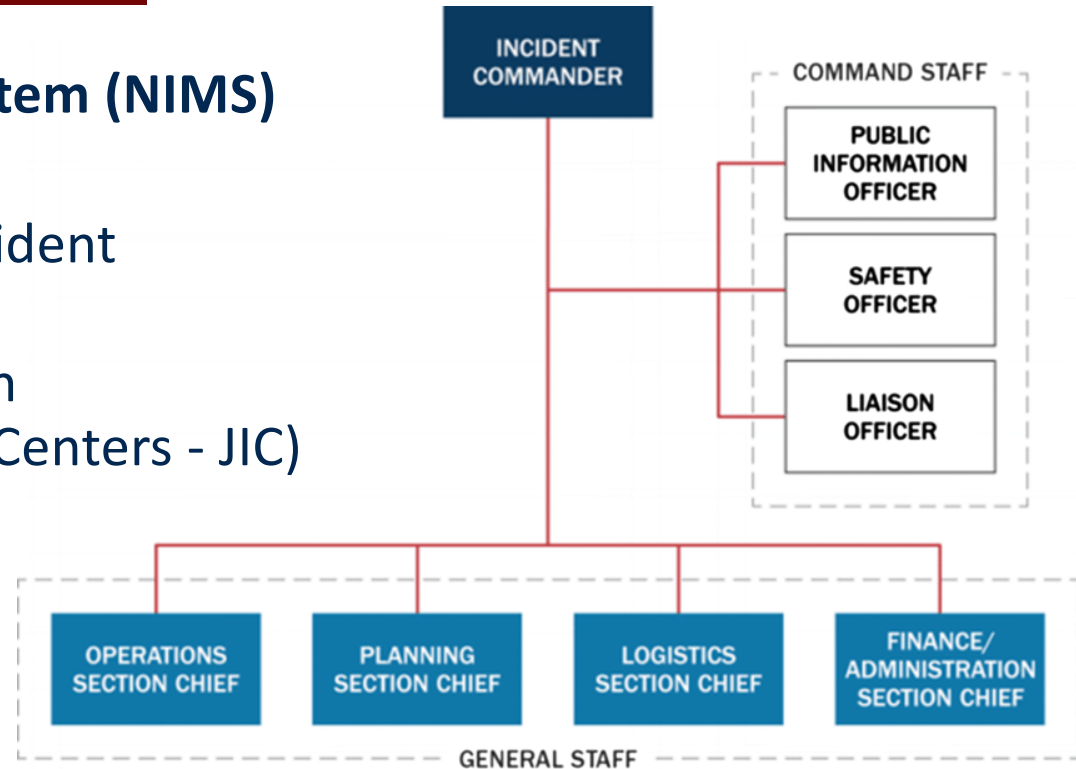
Oregon Department of
Emergency Management
Real Time Assessment
and Planning Tool for
Oregon (RAPTOR): GIS
mapping used for real
time incident impacts



Incident Management

- **National Incident Management System (NIMS)**
 - Resource Management
 - Command and Coordination (Incident Command System - ICS)
 - Communications and Information Management (Joint Information Centers - JIC)

Situation Reports (SITREP)

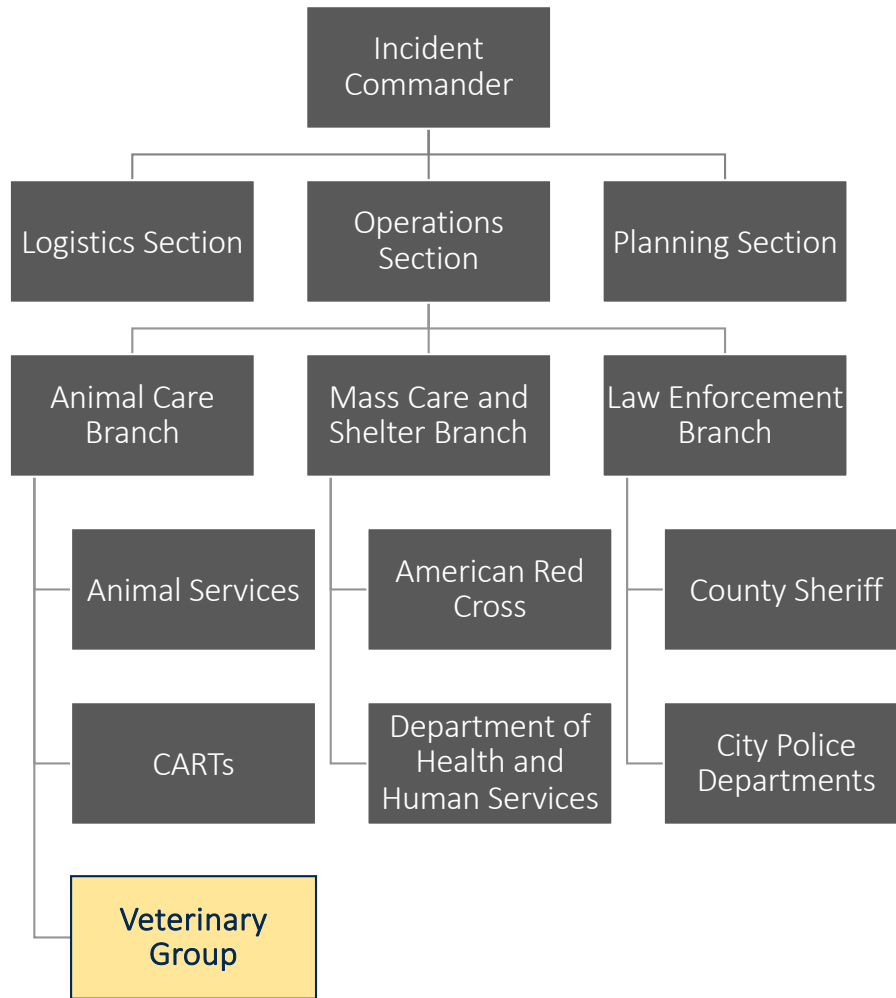


ICS Form 209

- Form 209 is for the **whole** incident
- Collect response data/information for your team

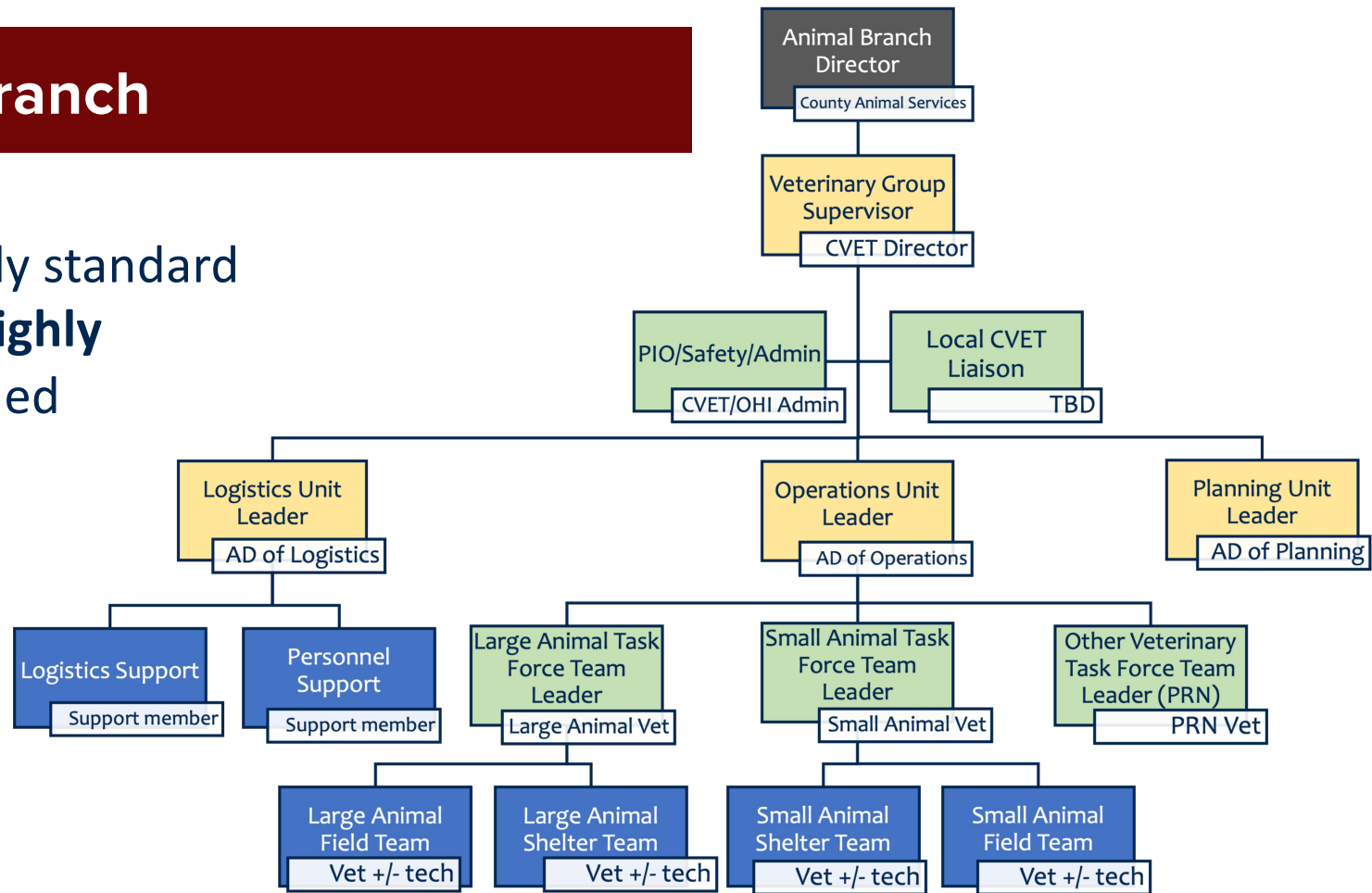
INCIDENT STATUS SUMMARY (ICS 209)			
*1. Incident Name: *3. Report Version (check one box on left): <input type="checkbox"/> Initial <input type="checkbox"/> Rpt # <input type="checkbox"/> Update (if used): <input type="checkbox"/> Final	*2. Incident Number: *5. Incident Management Organization: *6. Incident Start Date/Time: Date: _____ Time: _____ Time Zone: _____		
*7. Report Incident Size or Area Involved (use unit label – e.g., "sq mi," "city block"): *8. Percent (%) Contained <div style="border: 1px solid black; padding: 2px; width: 100px;">Completed</div>	*9. Incident Definition: *10. Incident Complexity Level: *11. For Time Period: From Date/Time: _____ To Date/Time: _____		
Approval & Routing Information			
*12. Prepared By: Print Name: _____ ICS Position: _____ Date/Time Prepared: _____	*13. Date/Time Submitted: Time Zone: _____		
*14. Approved By: Print Name: _____ ICS Position: _____ Signature: _____	*15. Primary Location, Organization, or Agency Sent To:		
Incident Location Information			
*16. State:	*17. County/Parish/Borough:		
*19. Unit or Other:	*20. Incident Jurisdiction:		
*21. Incident Location Ownership (if different than jurisdiction):	*22. Incident Location Ownership (if different than jurisdiction):		
*22. Longitude (indicate format): Latitude (indicate format):	*23. US National Grid Reference:		
*24. Legal Description (township, section, range):	*25. UTM Coordinates:		
*25. Short Location or Area Description (list all affected areas or a reference point):			
*26. Note any electronic geospatial data included or attached (indicate data format, content, and collection time information and labels):			
Incident Summary			
*28. Significant Events for the Time Period Reported (summarize significant progress made, evacuations, incident growth, etc.):			
*29. Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.):			
*30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.):			
A. Structural Summary F. Single Residences F. Nonresidential Commercial Property Other Minor Structures Other	B. # Threatened (72 hrs) 	C. # Damaged 	D. # Destroyed
ICS 209, Page 1 of ____		* Required when applicable.	

Animal Care Branch



Animal Branch

Not currently standard
in CA, but **highly**
recommended



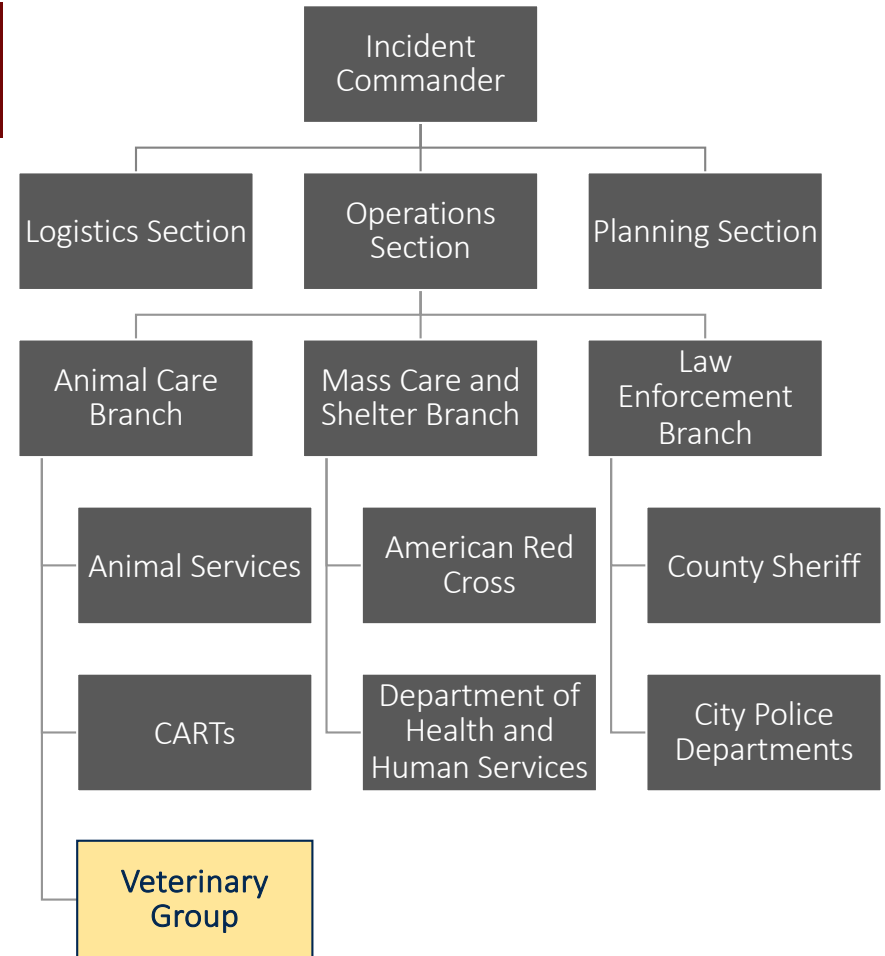
**What
about the
animals?**



Animal-Specific Assessment

Perform an on-site assessment of animal needs:

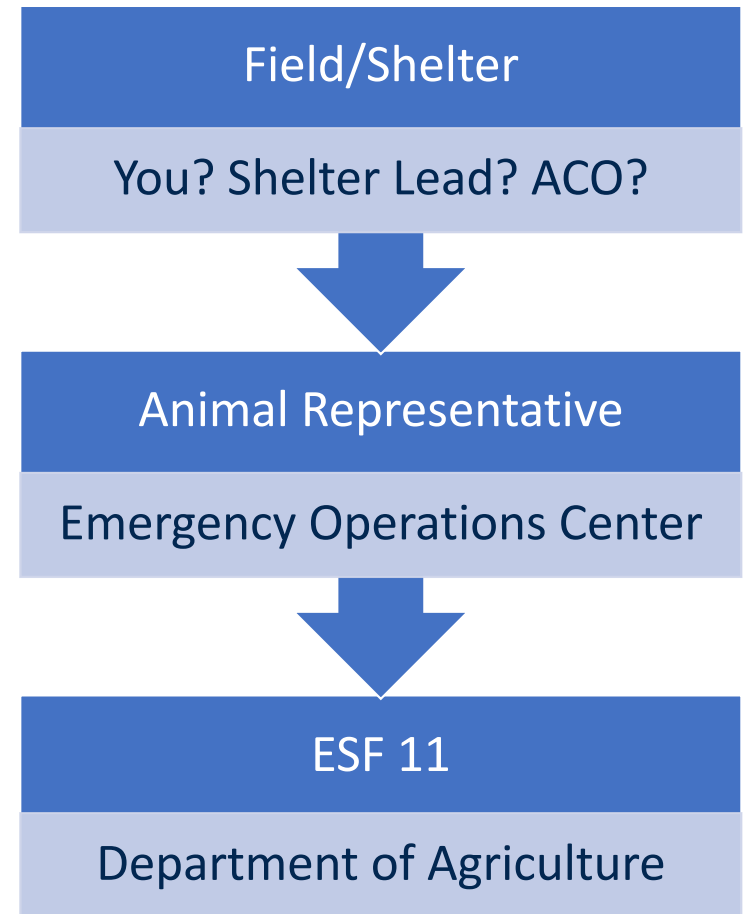
- **MUST be in coordination with the lead animal agency/authority having jurisdiction (AHJ)**
 - Animal Services/Control – Sheriff/Police/Other
 - Community Animal Response Team (CARTs)
 - Non-Profit Organization/ Humane Society



On-Site Assessment

Example Questions to Ask:

- How many animals are currently affected?
- Predicted number of additional animals?
- Are there shelter needs or field needs or both?
- **Are there veterinary concerns/needs?**
- What staff/volunteers are available on site?
- What additional equipment is needed?
- What additional personnel is needed?
- **How are animal requests being managed?**



The Veterinarian's Role

Veterinarians are often asked to assume many roles within the shelters.

- Develop a team
- Clarify your role in the ICS
- Scale up your response if needed



Disease Surveillance

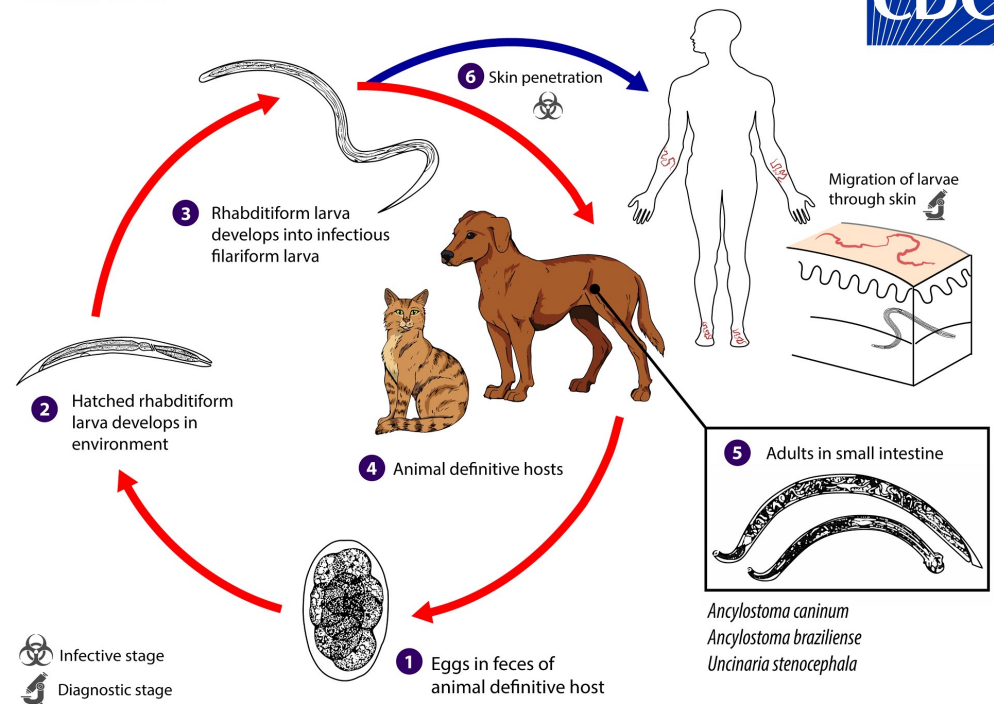
Concerns for infectious disease:

- Vomiting/diarrhea
- Epistaxis (equine)
- Ocular/nasal discharge
- Coughing/sneezing
- Tremors/ataxia
- Skin lesions/hair loss



DPDx

Cutaneous Larva Migrants



Shelter Walk Through

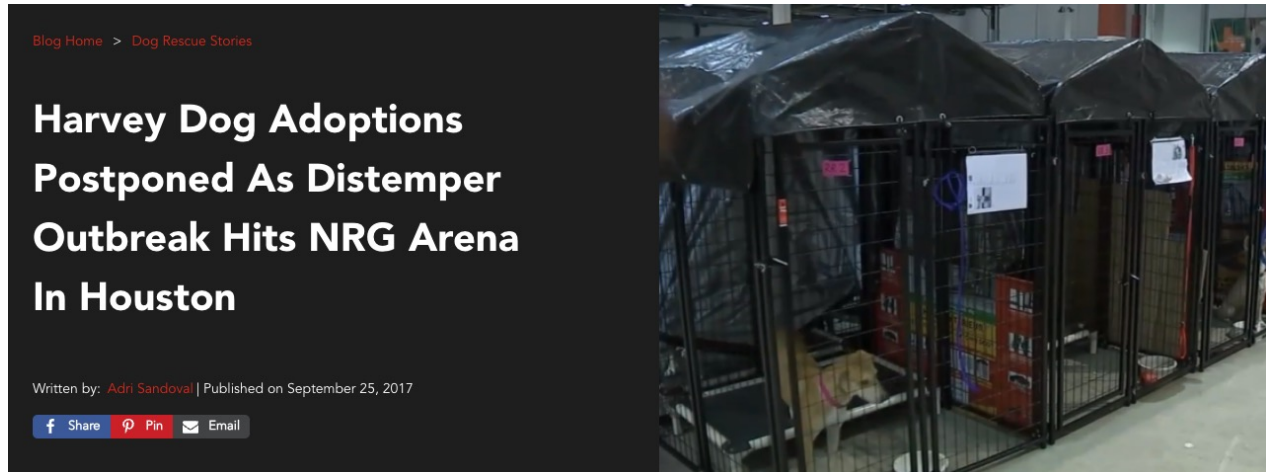
Jamboard! 



Risk Mitigation

Shelter concerns:

- Intake and shelter set-up/flow
- Mixed species
- Overcrowding
- Poor air flow/ventilation
- Lack of triage or intake assessment
- Lack of biosecurity



Outbreak Management

- Step 1: Identify the sick and exposed
- Step 2: Set up an isolation area
- Step 3: Isolate the sick
- Step 4: Determine the diagnosis
- **Step 5: Review biosecurity protocols**

Develop standard operating guidelines (SOGs) beforehand!

Assign isolation staff!



<http://m.hocheymedical.com/showroom/disposable-microporous-ppe-protective-suit-safety-coverall-protective-clothing-isolation-gown-with-european-standard.html>

Resource Requests

- Depends on the scale of the incident
- Smaller incident:
 - County MOUs with OSU
 - Direct mutual aid request to OSU or between counties
 - Build county to county relationships ahead of time!
- Larger incident:
 - Resource requests require a state incident number - resource requests go through the state (call, then Ops Center to submit a request)
- Local counties may have their own website request systems





Animal and Human Threats and Risks

Common Hazards

- Disaster zones are dangerous!
- Know the current hazards
 - Trips/falls
 - Air quality index (AQI)
 - Heat index
 - Other weather concerns
- Attend safety briefings
- Identify the Safety Officer
- Communicate safety concerns to your team!



Animal-Specific Safety Hazards

- Potential safety hazards while working with animals:
 - Bites
 - Scratches
 - Crushing injuries
 - Exposure to zoonotic organisms
 - Injuries with sharp objects
 - Heavy-lifting injuries

Slow is steady and steady is fast!



<https://www.reedanimalhospital.com/blog/handling-aggressive-behavior-in-your-dog/>

Infectious and Zoonotic

Steps to take:

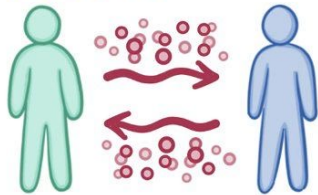
- Educate and train your team
- Adhere to appropriate PPE
- **Request PPE if it is not readily available**
- Limit staff and volunteers working with infectious animals
- Assign an isolation team
- **Wash your hands!!!**



Personal Protective Equipment (PPE)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

* AVOID TRANSMISSION of INFECTION



* PPE NEEDED DEPENDS on:

- └ TYPE of PROCEDURE
- └ CLIENT
- └ RISK of EXPOSURE



Practice it!

- Donning – putting full PPE on
- Doffing – taking full PPE off
- Without contamination!



Additional Resources

- [The Center for Food Security and Public Health Just-in-Time Training for Responders](#)
- [Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel](#)
- [National Alliance of State Animal and Agricultural Emergency Programs \(NASAAEP\) Disaster Veterinary Care Best Practices \(just updated!\)](#)
- [Compendium of Measures to Prevent Disease Associated with Animals in Public Settings](#)



Mental Health Awareness



The Stress is Real

Most of us are already stressed ...

- Burnout
- Compassion fatigue
- Lack of staff



<https://www.nomv.org/>



Unique to You

- Practicing in a new and foreign environment
- Not able to meet all patient needs, or address all issues
- Severe trauma (burns, etc.)
- Large scale euthanasia
- Burden of decision, especially without owners consent
- Volunteer emotional trauma and attachment



What have you experienced?

Jamboard! 



Signs of Stress

Disasters are stressful on **everyone**, including you!

Be able to recognize the signs of stress:

- Physical: nausea, dizziness, headaches, fatigue
- Cognitive: disorientation, memory loss
- Emotional: anxiety, guilt, grief, irritability
- Behavioral: anger, withdrawal, depression, drug or alcohol abuse

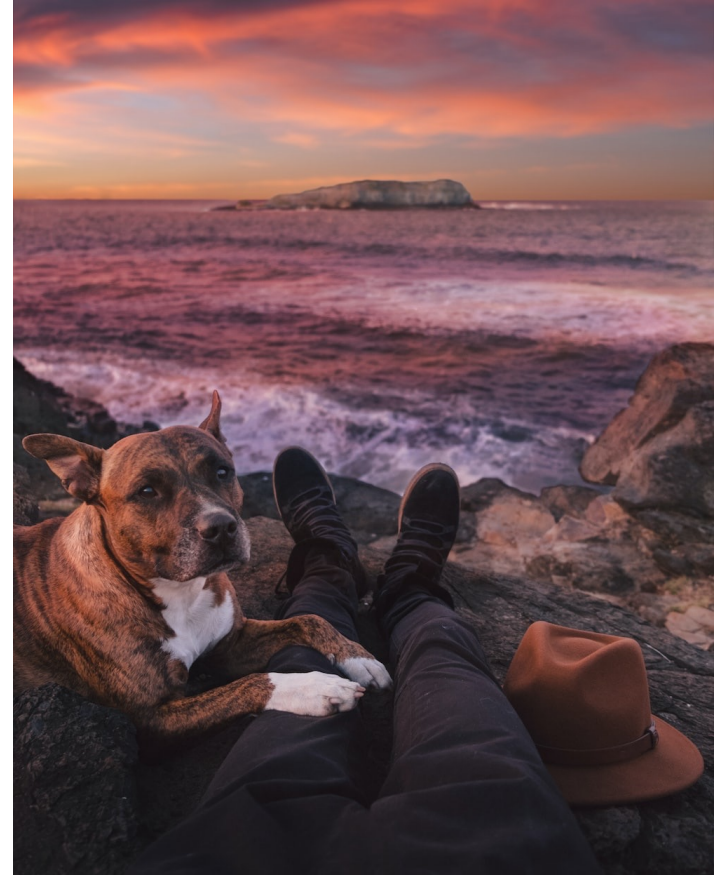


<https://www.india.com/lifestyle/how-chronic-stress-can-impact-physical-mental-health-6021009/>

Self Awareness

- Perform daily check ins
- Have a plan before you deploy
- Know your risk factors
- **Buddy system**
- Talk with someone

Know that it's OK to take a break
Know when to ask for help



Interpersonal Interactions

Remember,
everyone is stressed

- Owners
- Staff/volunteers
- Teammates

- Don't take it personally
- Expect over-reactions and difficulty in comprehending
- Allow the space for venting
- Support them by caring for their animals
- Know when to refer them for help





Post Event/ Deployment Self Care

You're Home, Now What?

Common Post-Deployment Reactions

- Difficulty sleeping
- Depression or sadness
- Lack of energy and general exhaustion
- Trouble concentrating
- Body pains (headaches, etc.)
- Misuse of alcohol, drugs, etc. for coping



How to Cope

- Take care of yourself
 - Exercise
 - Eat healthy
 - Hydrate
- Find ways to relax and socialize
- Stay connected with friends and family
- **Talk to someone, anyone**
- Remind yourself that this is normal



Mental Health Resources

Team resources: University, local government, non-profit



- [Substance Abuse and Mental Health Services Administration \(SAMHSA\), The Disaster Distress Helpline: 1-888-985-5990](#)
- [988 Suicide and Crisis Lifeline](#)

Recovery Resources

- Assistance resources for housing, disaster loans, unemployment, farm/production losses, legal, insurance
 - Office of Emergency Management/Services
 - Department of Agriculture
 - American Red Cross
 - Federal Agency of Emergency Management (FEMA)

<https://www.disasterassistance.gov/>



Be an Advocate

Pre-Incident Training

- Critical Incident Stress Management (CISM)
- [Psychological First Aid \(PFA\) Training](#)
- [Green Cross Academy of Traumatology](#)
- [National Crisis Response Canines](#)



<https://www.verywellmind.com/what-is-critical-incident-stress-management-6741455>



Questions?

Email: cvet@ucdavis.edu

Website: www.cvet.ucdavis.org

