

Zoo & Wildlife Disease Surveillance and Emergency Preparedness

Michael J. Kinsel, DVM, Diplomate ACVP



Why would we investigate wildlife disease?

Health and welfare of animals and their environments

• Wildlife health

- Disease can be moderator of population numbers
- Judicious and efficacious intervention

• Domestic Animal Health

- Surveillance for diseases of pets and livestock

• Public Health

- Surveillance for zoonotic diseases
- Discovery/investigation of diseases of uncertain risk for animals & man

• Ecosystem Health

- Sentinel/indicator species

- Disease (Outbreak) Investigation

- Short term
- Focus on “disease du jour”
- Limited testing
- Reaction & Remediation

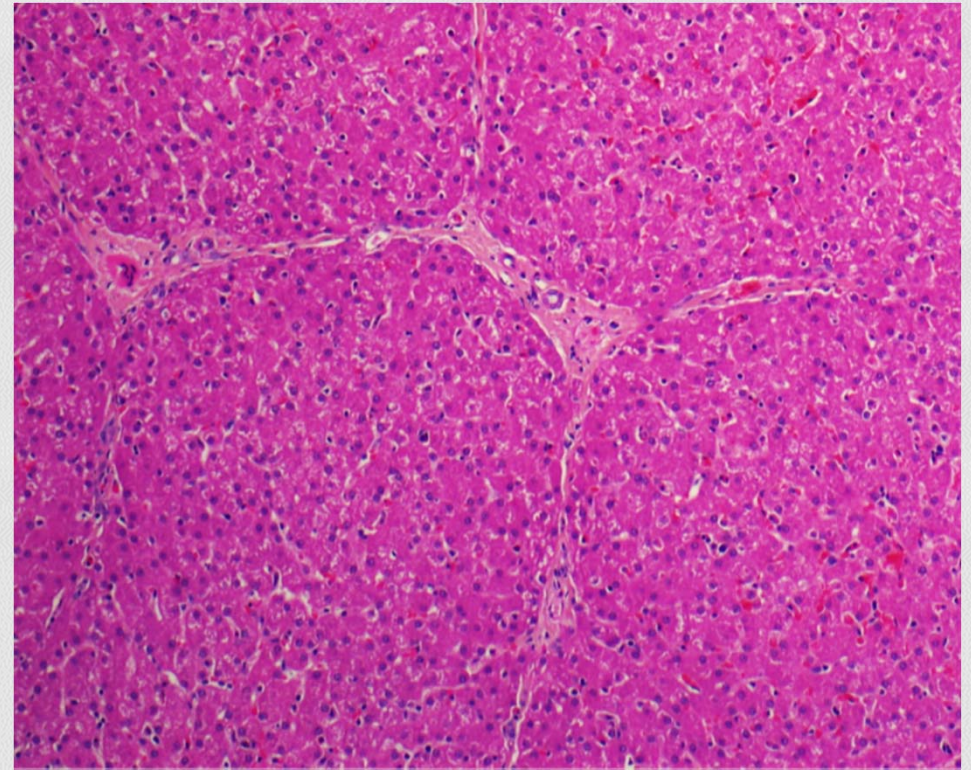
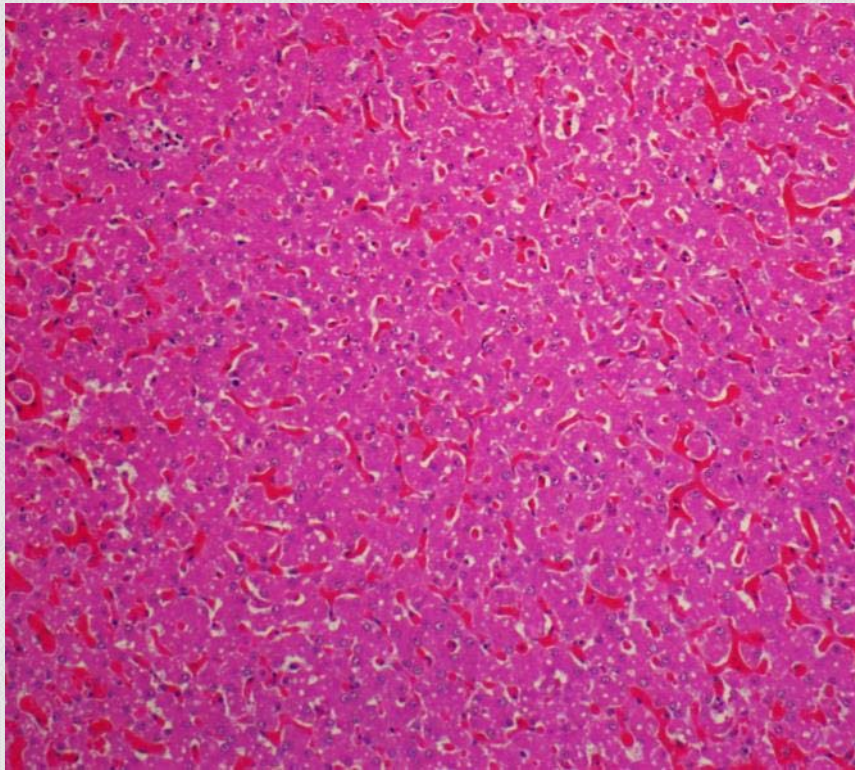
- Disease Monitoring/Surveillance

- Long term
- Broad focus on diseases of public and domestic animal health concern
- Comprehensive examination
- Early detection & Management implementation



● Importance of Disease Monitoring

- Hepatic fibrosis in raccoons
 - Common
 - Low grade toxic exposure?
 - Potential as confounding lesion



Diseases of Concern

- Canine Distemper Virus
- Leptospirosis
- Canine Parvovirus
- Rabies

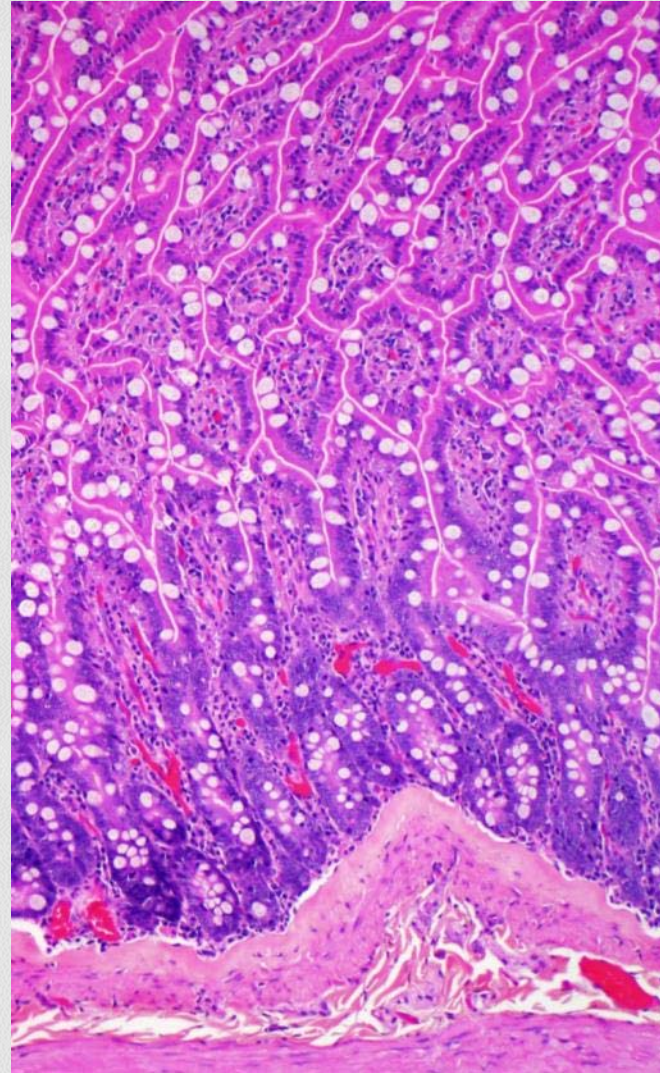
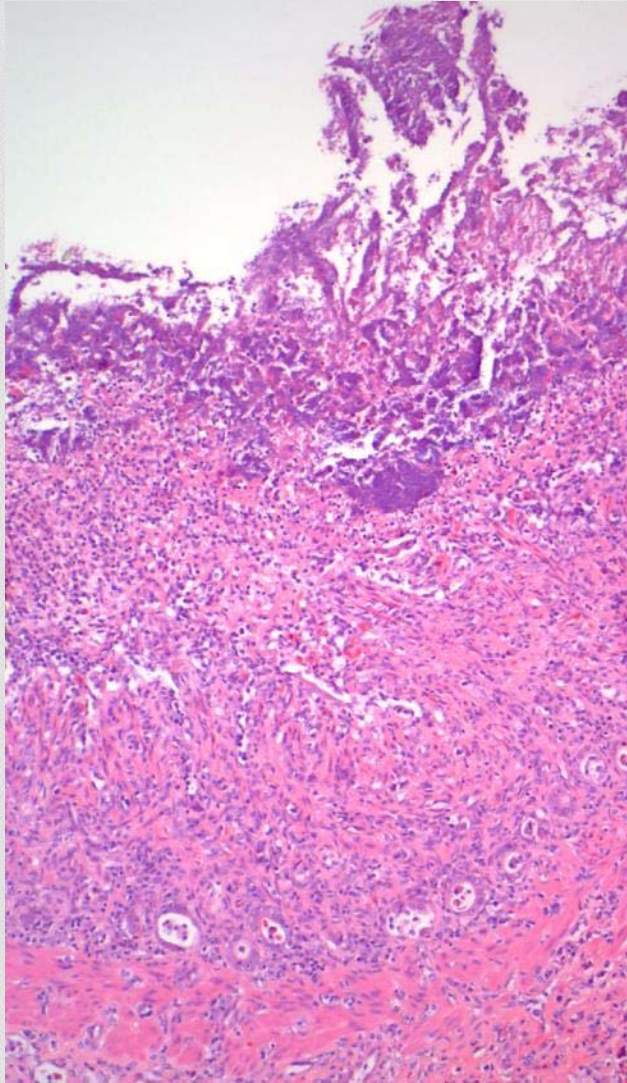


Parvovirus



- Diarrhea
 - Fever
 - Secondary bacterial infection
 - Death
 - Unvaccinated
 - Young
-
- Exposure to fecal material/contaminated surfaces
 - Increased exposure in when concentration of animals
 - Stable in environment

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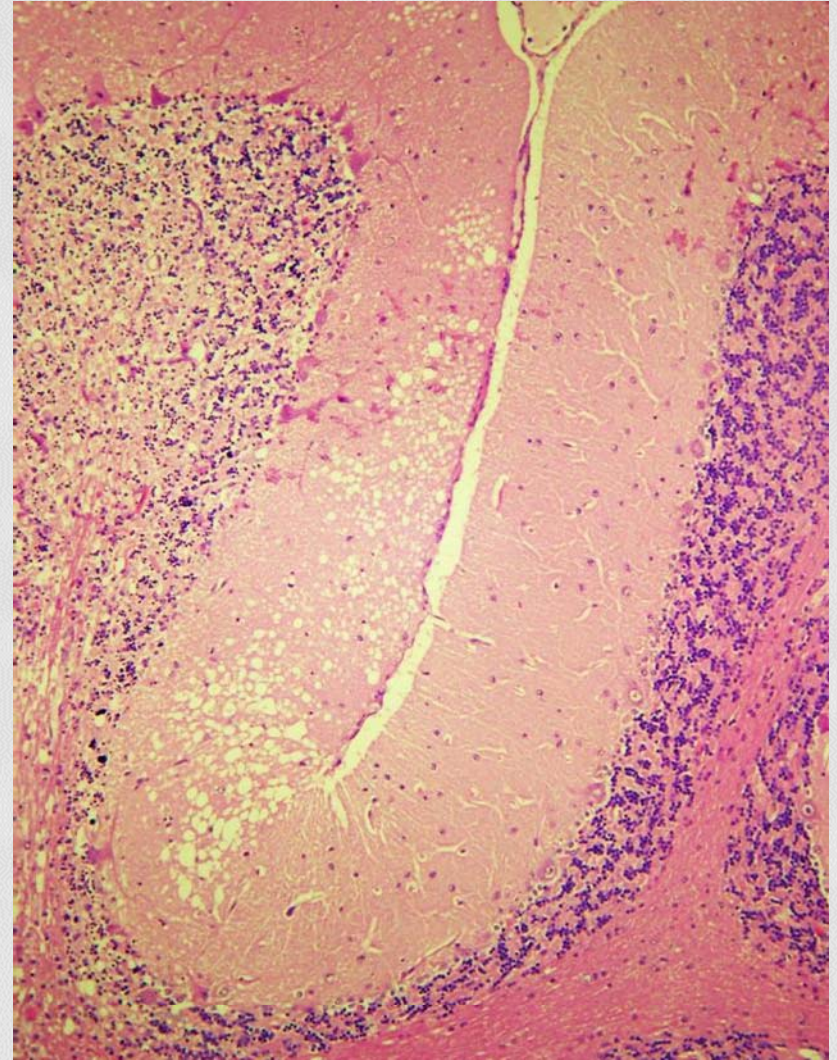
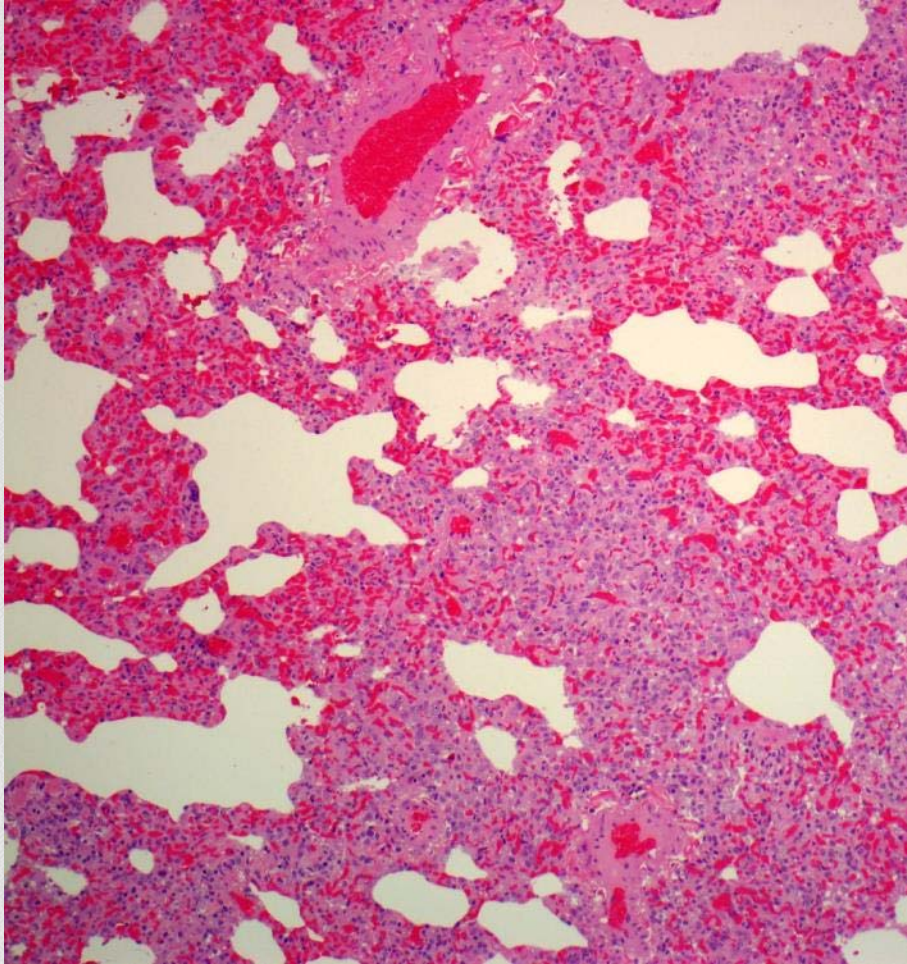
Canine Distemper Virus



- Pneumonia
- Nasal and ocular discharge
- Neurologic signs
- High morbidity
- 50% mortality
- Unvaccinated
- Exposure to novel strains?
- Confused with rabies

- Direct contact
- Concentration of animals

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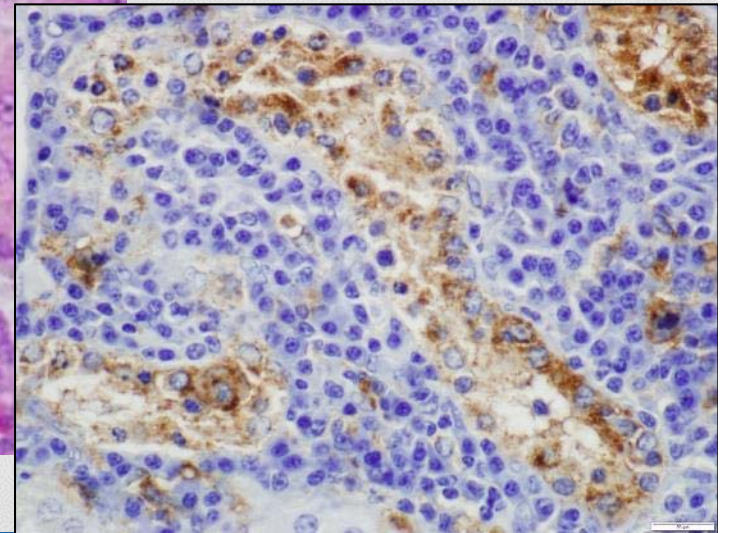
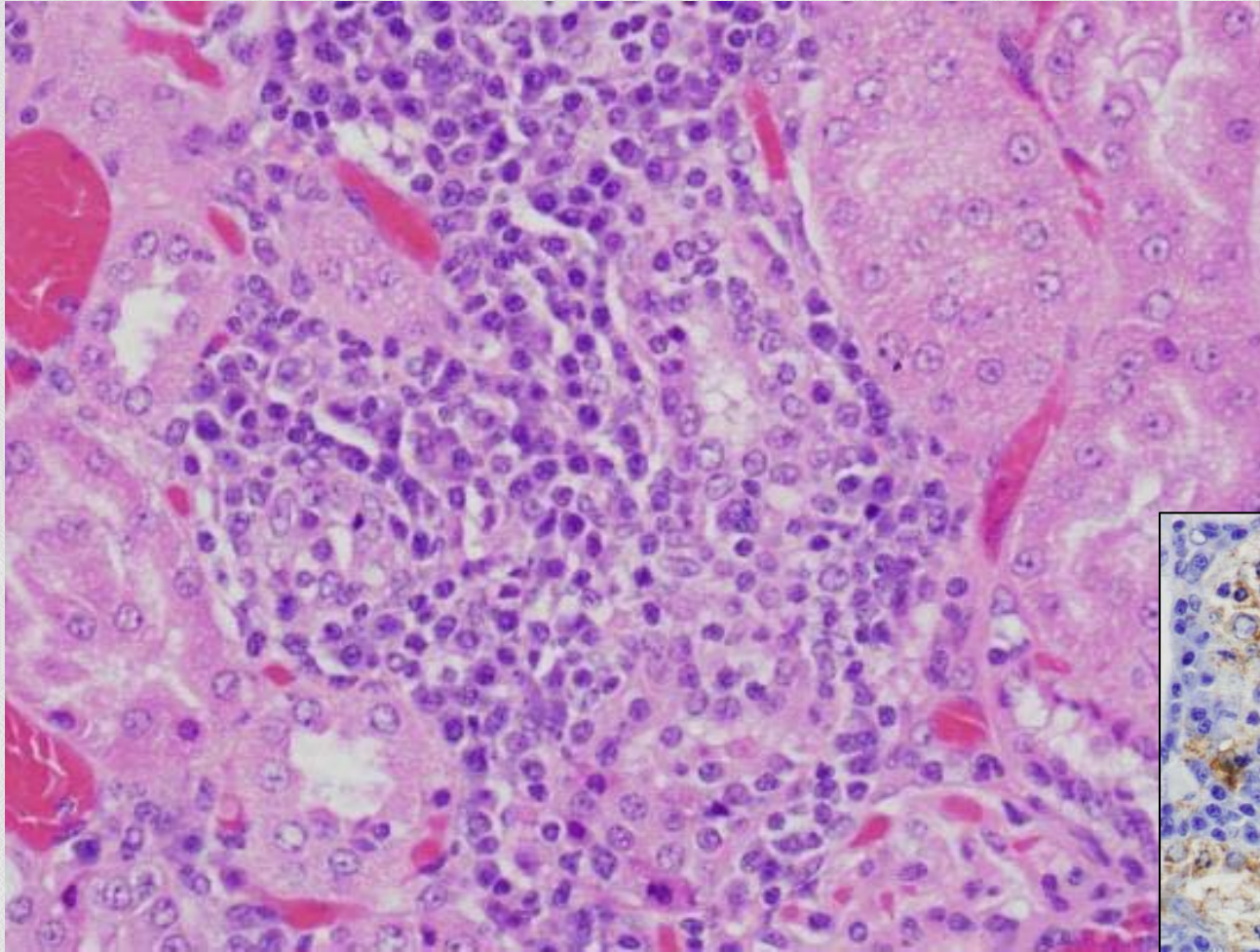
Leptospirosis



- Fever
- Liver disease
- Kidney disease +/- kidney failure
- Unvaccinated
- Exposure to serovars not in vaccine

- Exposure to urine/contaminated surfaces or water
- Concentration of animals
- Stagnant water

Leptospirosis



Wildlife Disease Surveillance: Leptospirosis

2014 Raccoons:

- 20% positive
 - PCR; kidney & urine
 - Immunohistochemistry
- Most common strains
 - Grippotyphosa
 - Icterohaemorrhagiae
 - Hardjo



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