



## Before “One Health” Was Cool:

The past, present, and future role of zoological veterinarians in one health partnerships

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## Wildlife Health Sciences

### Zoo Medicine Unit (DC-Rock Creek):

- 2 Supervisory Clinicians
- 1 Associate Clinician
- 1 Part-time Clinician
- 1 Clinical Resident
- 5 Clinical Technicians
- 2 WHS Keepers

### Pathology Unit:

- 1 Supervisory Pathologist
- 2 Associate Pathologist
- 1 Pathology Technician
- 2 Clinical Pathology Technicians
- 1 Elephant Herpes Laboratory Mgr
- 1 Elephant Herpes Technician

### Conservation Medicine Unit (VA-Front Royal):

- 1 Supervisory Clinician
- 1 Associate Clinician
- 2 Clinical Technicians

### Other:

- 1 Facilities/Records Manager
- 1 Epidemiologist
- 1 Chief Veterinarian



# Zoo/Aquarium Medicine vs. Wildlife Medicine vs. Conservation Medicine

## The Continuum from Captive Individual to Free-Ranging Individual

Captive Individual

Captive Populations

Semi-Captive Populations

Free-ranging Populations

Free-ranging Individual



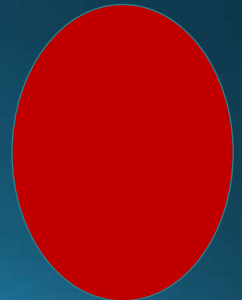
Captive Individual

Captive Populations

Semi-Captive Populations

Free-ranging Populations

Free-ranging Individual

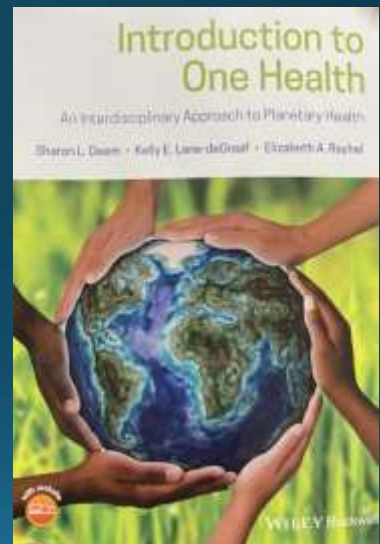


- Zoo/Aquarium Medicine
- Wildlife Medicine
- Conservation Medicine

## Wildlife Medicine across the continuum: Ex. Florida Panther Conservation



## One Health

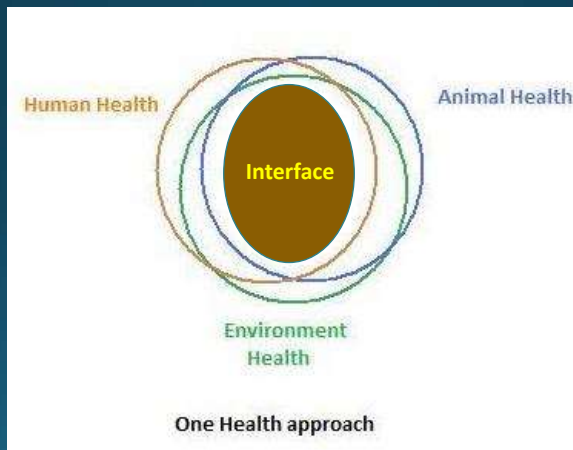


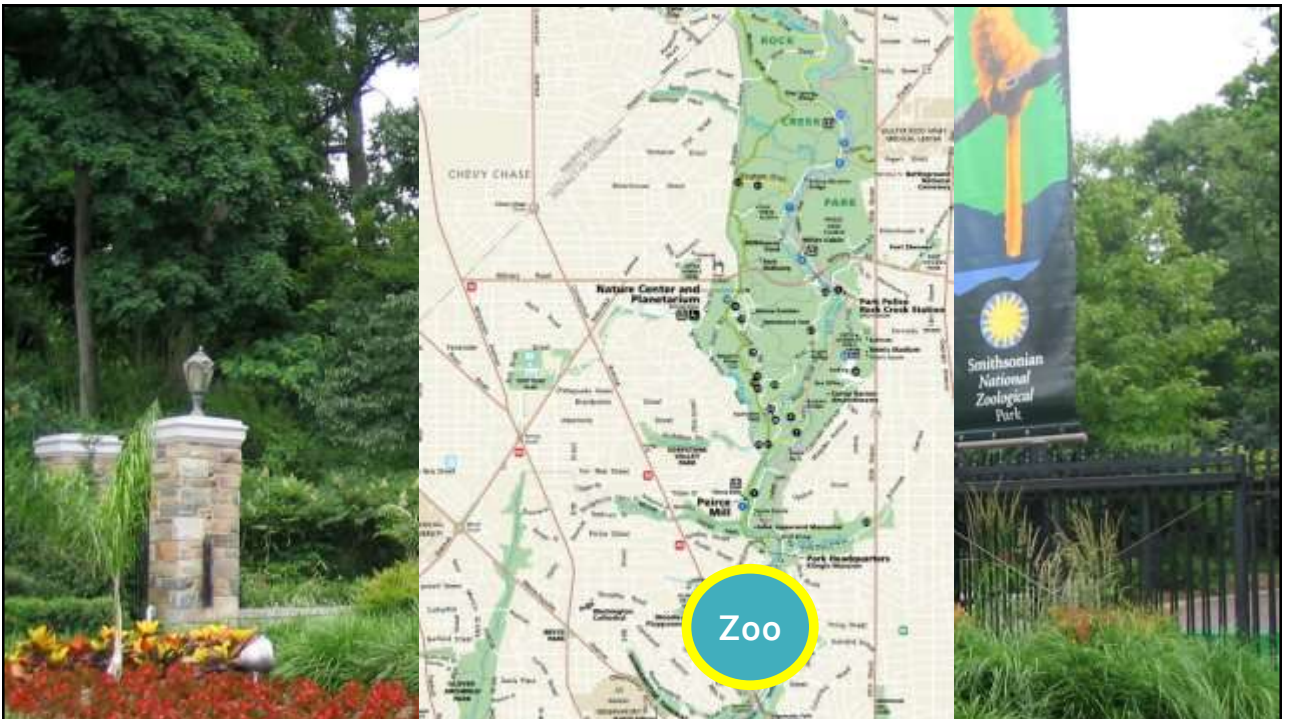
# Before "One Health" Was Cool Zoo, wildlife, and aquatic veterinarians have always operated in the One Health arena



## Where?

### The Human/Livestock/Wildlife Interface









A large amount of vet time is aimed at direct or indirect mitigation of risks to and from peridomestic and feral species and migrating wildlife





University of Illinois at Urbana-Champaign

## “One Health” Skill Sets: Preventive Medicine

- Taxon/Species Based DZ screening



- Geriatric Care



- Complimentary Therapy



## Four Pillars of Preventive Medicine

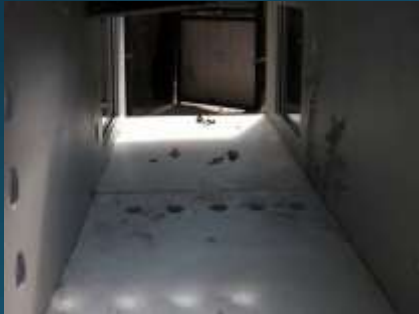
Clinical  
Medicine

Pathology

Nutrition

Quarantine

## Gino US sessions



## “One Health” Skill Sets: Innovative Treatments and Diagnostics

- Ex. Autologous wound therapy in a Cuban Crocodile





## “One Health” Skill Sets: Innovative Treatments and Diagnostics

- Ex. IRAP (Interleukin receptor antagonist protein)

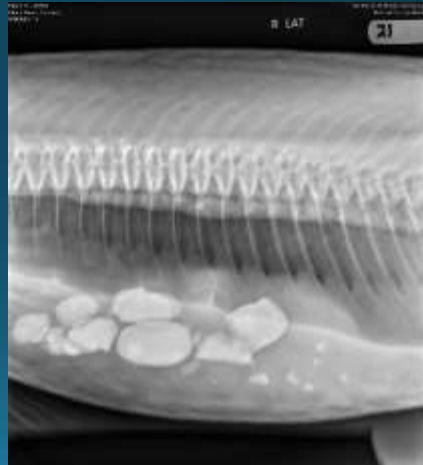


- Ex. Potential markers for fertility in Pandas (Ex. Anti-Mullerian Hormone)



# “One Health” Skill Sets: Innovative Procedures

- Gastric foreign body removal in Arapaima



## “One Health” Skill Sets: Eye for Emerging Diseases and Issues

- Ex. Idiopathic Encephalopathy in Gibbons



- Ex. Mycobacteria sp. necrotizing tracheitis in Prehensile Tailed Porcupines



## “One Health” Skill Sets: Quarantine and Biosecurity



## “One Health” Skill Sets: Surveillance

- Ex. Snake Fungal Dz



- Ex. Chytridiomycosis in salamanders



- Ex. Elephant Endotheliotropic Herpes Virus



## “One Health” Skill Sets: Surveillance

- Rabies, Parvovirus, Canine Distemper, Cestodiasis, Nematodiasis, Sarcocystosis



- Ex. HPAI, West Nile Virus



## “One Health” Skill Sets: Food Security



## “One Health” Skill Sets: Occupational Health and Safety

- Ex. Potent Opioids and other concentrated drugs
- Ex. Dangerous species – bite, scratch, crush, or envenomation are possible; need for animal escape protocols
- Ex. Lifting, twisting, and falling injuries not uncommon

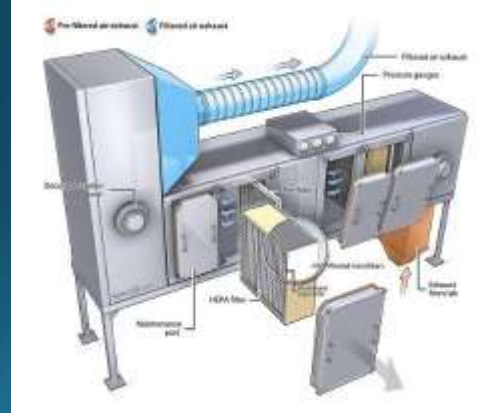


## "One Health" Skill Sets: Environmental Quality and Life Support Systems

- Ex. Filtration systems for fresh and saltwater



- Ex. Air quality – filters, ventilation, humidity, Temp



## "One Health" Skill Sets: Teaching and Training

- Ex. Internal – residents, interns, fellows, vet students.



- Ex. External – multiple audience types nationally and internationally



Questions?

