



Forensic Anthropology

AN INTRODUCTION

Education & Background

Education

- Current MA – Forensic/Biological Anthropology Focus
- BS in Anthropology
 - Boise State University

Professional Work at Ada County Coroner's Office

- Forensic Technician II
 - Anthropology Specialist
 - Skeletal recovery:
 - Excavations/Surface scatter
 - Skeletal preparation:
 - Rendering
 - Photography/Radiography
 - Bone identification
 - Human vs. nonhuman identification.
 - Liaison with Boise State University & FBI
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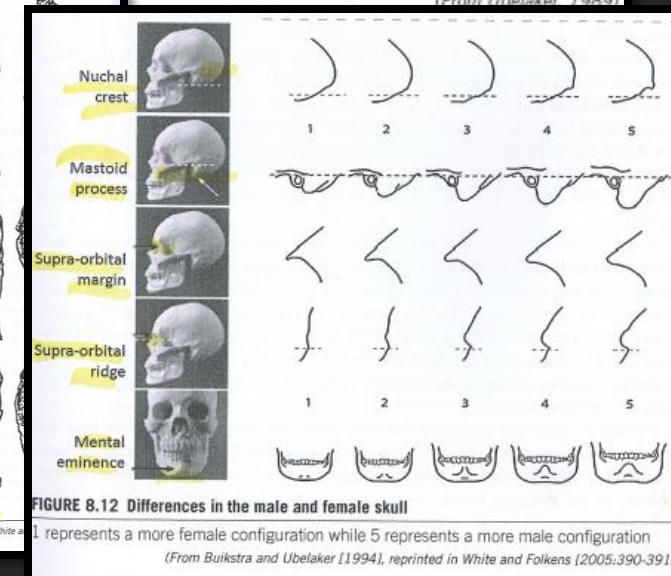
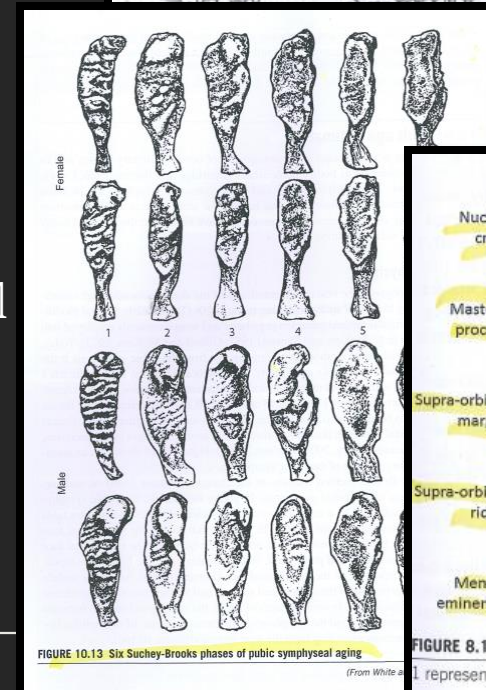
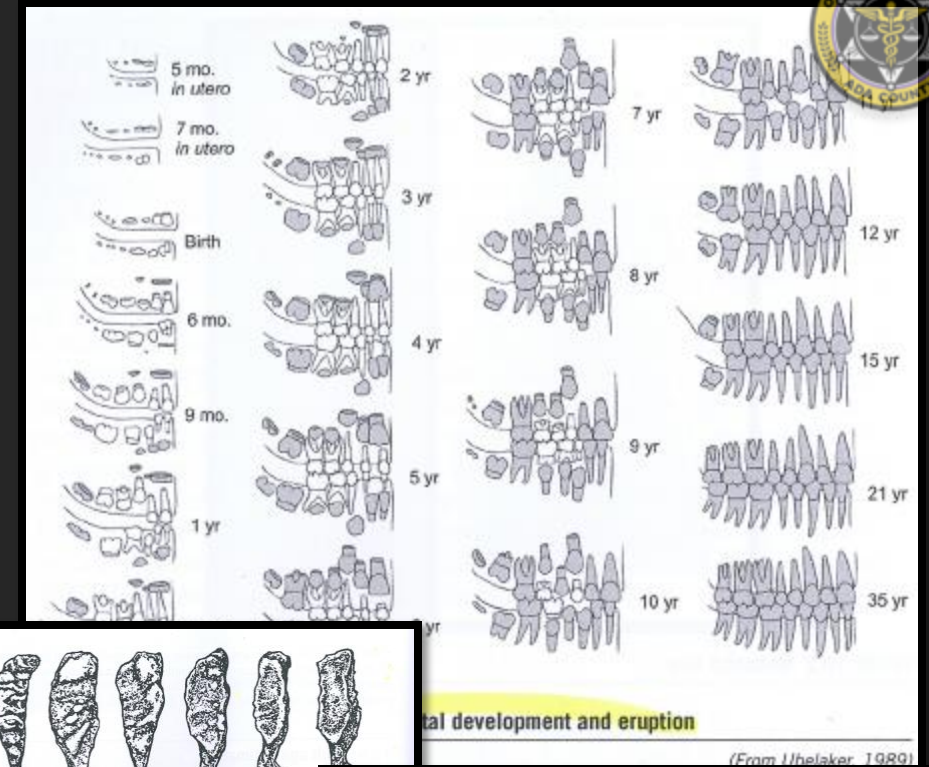
Why is FA important?

Per JurisPro Expert Witness Directory:

- Board Certified Forensic Anthropologists can give legal expert opinions, analysis, and testimony related to skeletal remains:
 - Identification
 - Age, Sex, Ancestry
 - Trauma
 - DNA Analysis
 - Assistance in Determining COD/MOD and DOD
 - Involved in legal cases such as:
 - Homicides
 - Mass Disasters
 - Missing Persons

Individuals with training in Forensic Anthropology and/or Biological Anthropology

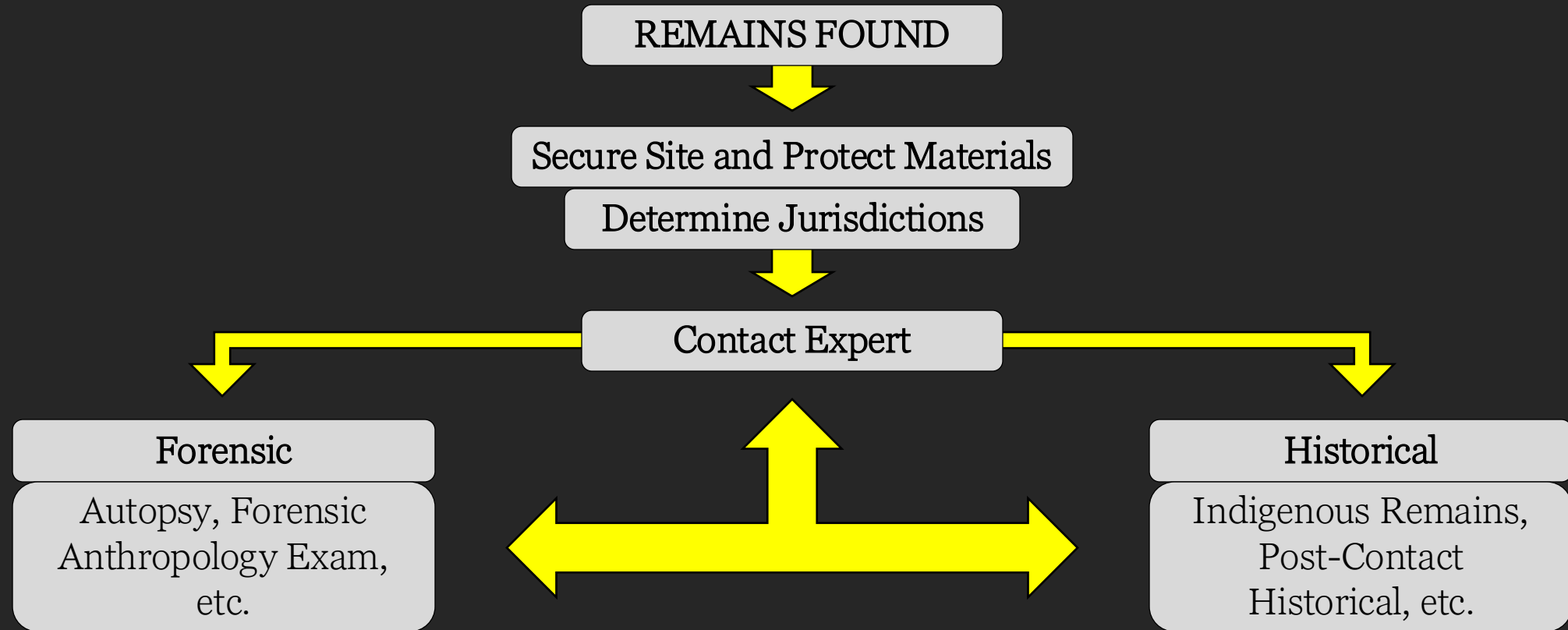
- Human vs. nonhuman identification.
- Determination of indigenous and/or post-contact remains.
- Collect and prepare skeletal remains for further analysis.





Procedures for Human Skeletal Discoveries in Idaho:

(Larson, Plew, Anderson, Halford, 2018)



Securing Location, Protect Materials, & Determine Jurisdictions



Many variables to consider:

- Is this site easily accessible to the public?
- Was the specimen brought into LE or CC Offices?
- Surface scatter or burial site?
- Season/weather restrictions.
- Found on Federal Land? State? Private?

Able to Secure Site

- Secure locations, inaccessible by public, remote area, etc.
- Leave materials *in situ*.
- Contact LE, State, or Fed related agencies depending where the remains were found.
- Photograph and document site location and important details.
- Photograph undisturbed visible material with reference ruler.
- Set up plan to maintain the security of site.

Unable to Secure Site

- Unknown site location, directly accessible by public, etc.
- If unknown site/brought in by public:
 - Get as much backstory as possible
- If not securable site:
 - Photograph material *in situ*.
 - Photograph site and document important details.
- Seal specimen in paper bag/envelope.
 - **PLEASE NO PLASTIC BAGS!**

Contacting Experts I: Human vs. Nonhuman

Most times, skeletal remains will be nonhuman and fragmentary.

- Due diligence requires confirmation by an individual educated in osteology.
- If found to be nonhuman, destroy or secure the specimen in a collection.

Easiest method:

- Send the photographs with reference ruler via text or email.
- Typically, can confirm nonhuman origin same day, depending on the quality of photograph and degree of fragmentation.

Who to Contact:

- **Ada County Coroner's Office**
- **Higher Educational Institutions**
 - Boise State University
 - Idaho State University
 - University of Idaho
- **Osteological Medical Professionals**
 - Doctors not specialized in osteology or forensic pathology should be only considered if no other option is available.



<https://www.shutterstock.com/video/clip-1055555342-bone-animal-skulls-bones-real-buffalo-sale>



<https://www.nps.gov/katm/blogs/bear-bones.htm>

Contacting Experts II: Forensic



Schedule and Autopsy

- Allows experts to view the remains and recommend additional exams.

Forensic Anthropology Examination

- Remains photographed/radiographed prior to rendering.
- Rendering commences with recommendations from FA.
- Remains photographed/radiographed and identified.
- Relevant specimens shipped to FA (FBI or Private FA)

Results from FA Examination

- Very dependent per case
 - This is why it is recommended to include FP and perform an autopsy.
- Biological information
 - Age/Sex/Ancestry
 - DNA references and Missing Persons cases
 - Facial Approximation
- Trauma Analysis and Timing
 - Sharp FT, Blunt FT, etc. | Postmortem, antemortem, perimortem



Contacting Experts III: Historical



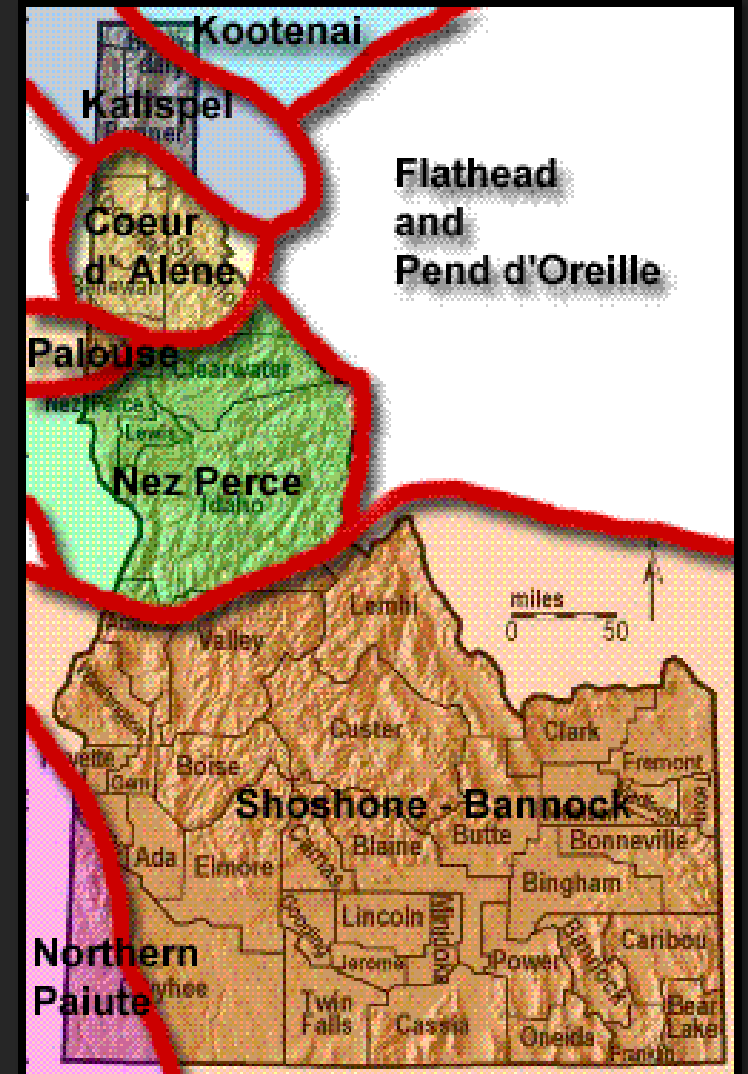
Per the National Historic Preservation Act, sites are considered “historically significant” after 50 years.

Different degrees of significance:

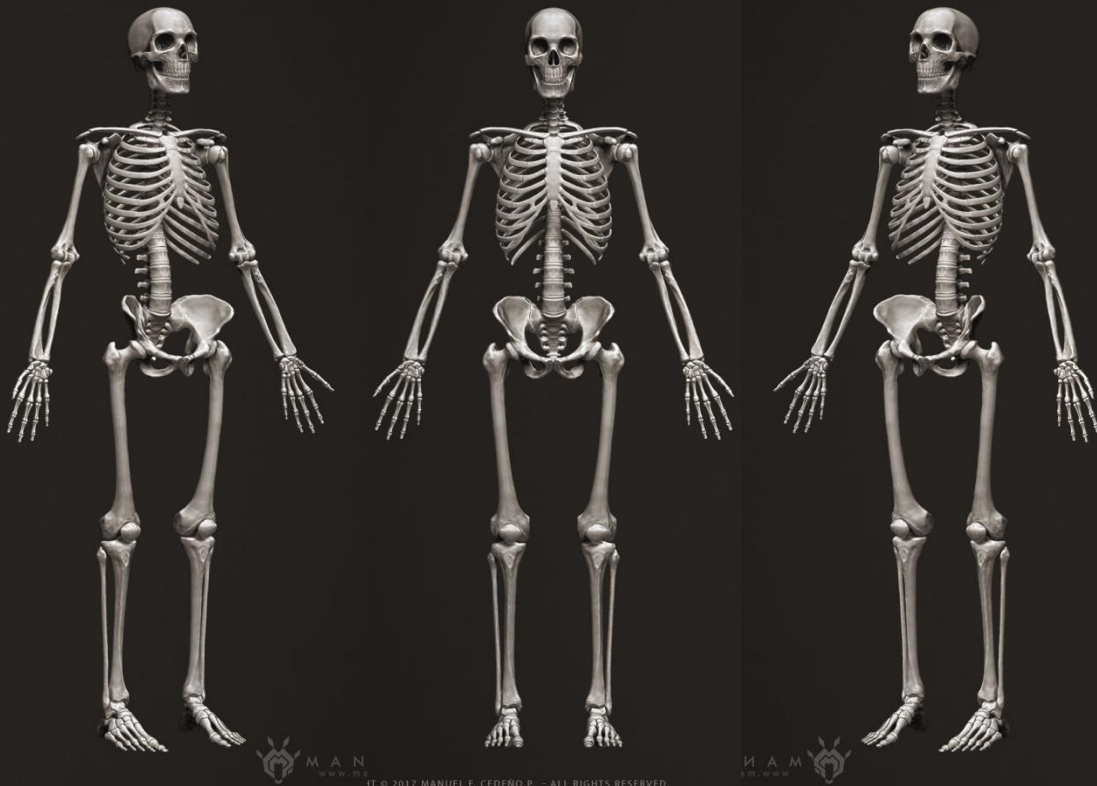
- Post-Contact: Historical within last 200 years.
- Pre-Contact: Remains 200+ years and older in Idaho.
 - These will most likely be of indigenous peoples.

If found to be potentially indigenous remains – **STOP!**

- DO NOT COLLECT – DO NOT DISTURB
- Per Federal Law NAGPRA (Pub.L. 101-601; 25 U.S.C. 3001-3013; 104 Stat. 3048-3058), remains and cultural artifacts are protected and must be repatriated to the local tribe.
- If found on **Federal Lands**
 - Contact **BLM** or **Forest Service**
- If found on **State Lands**
 - Contact **SHPO (State Historic Preservation Office)**
- These agencies will instruct you on what to do next.



Human vs. Nonhuman Comparisons



<https://www.cgtrader.com/3d-models/character/anatomy/3d-human-skeleton>

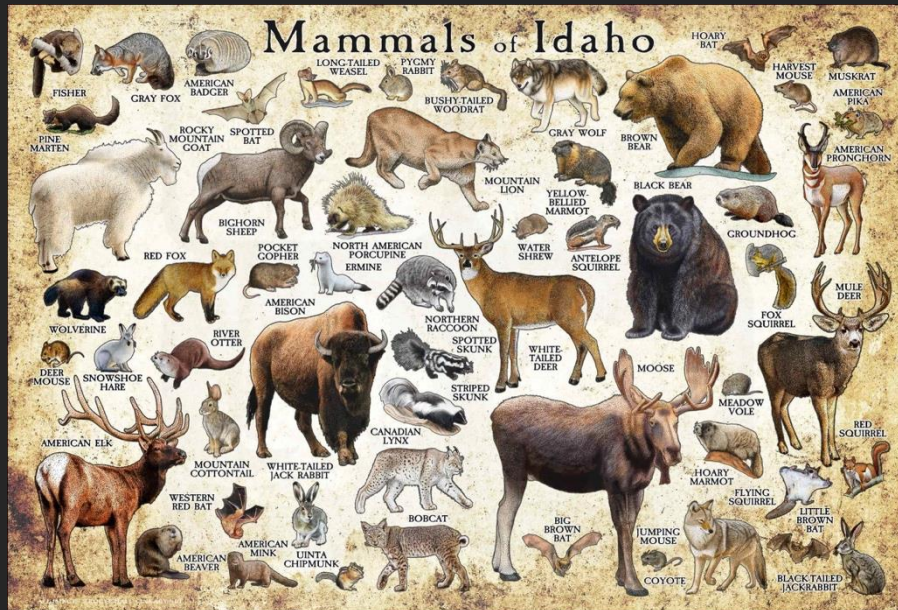


<https://www.zbrushcentral.com/t/bear-skeleton-3d-model/453373>

Common Idaho Species

Focus on **Medium** to **Large Mammals**

- Similar in size/shape to human remains.
- Commonly found by members of the public.
- Found in areas of human habitation/recreation.
- Commonly hunted.
- Bones used in cultural activities or as curiosities.

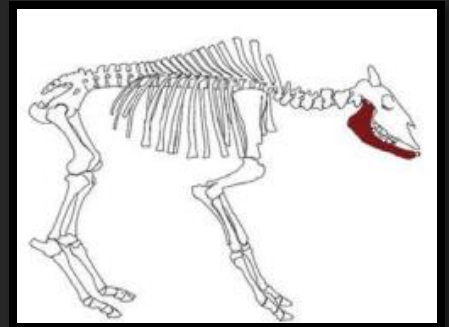
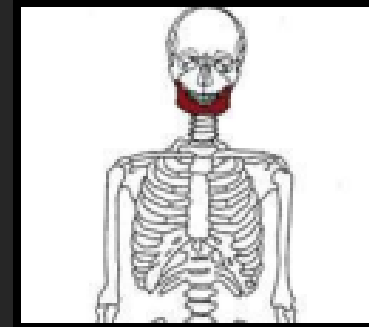


- Artiodactyla (Hoofed Mammals w/ even number of toes)
 - Bovine/Cow
 - Deer
 - Goat/Sheep
 - Moose/Elk/Caribou
 - Pig
- Carnivora (Carnivorous Mammals)
 - Bear
 - Bobcat/Lynx/Mountain Lion
 - Coyote/Wolf
 - Domestic Cat/Dog
 - Fox
 - Raccoon
 - Skunk
- Perissodactyla (Hoofed Mammals w/ odd number of toes)
 - Horse
- Rodentia (Rodents)
 - Beaver
 - Marmot
 - Porcupine
- Numerous Bird, Fish, Reptiles, Amphibians, and Invertebrates

Mandible and Teeth



HUMAN



BEAR



DEER

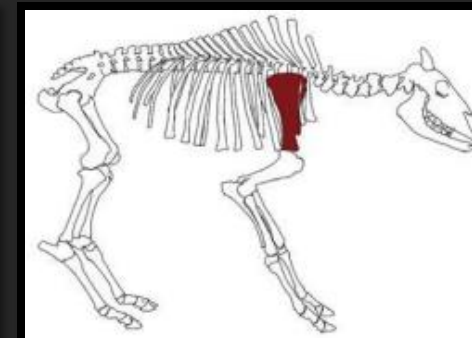
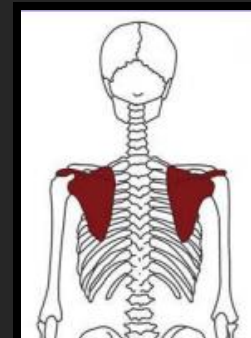
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Photos: (France, 2008)

Scapula



PIG



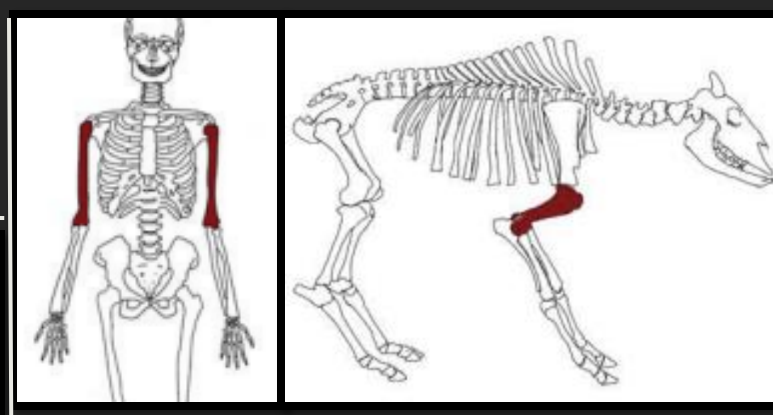
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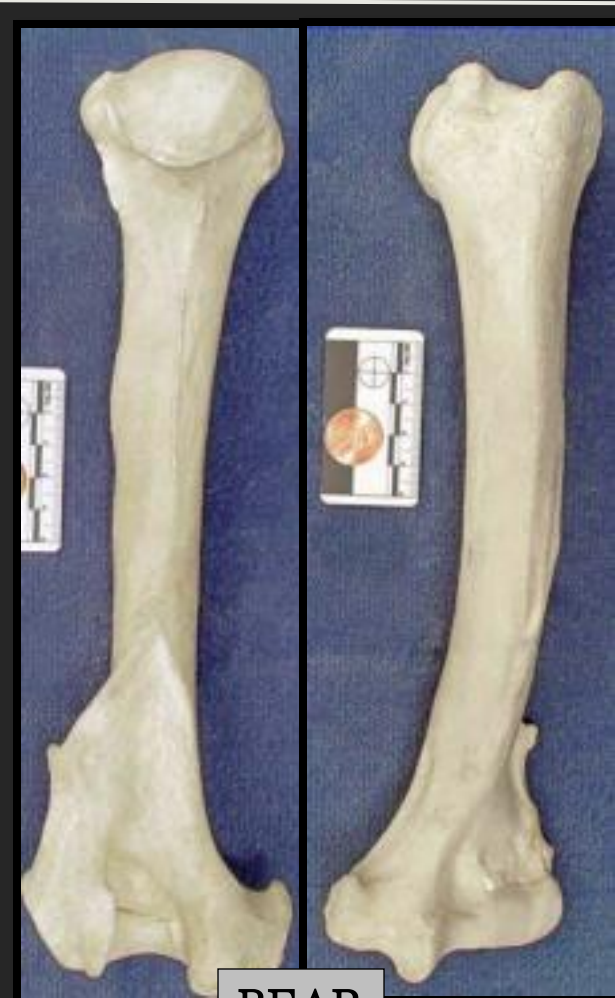
BEAR



Humerus



HUMAN



BEAR



DEER



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MNT. LION



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Photos: (France, 2008)

Ulna & Radius



HUMAN



BEAR



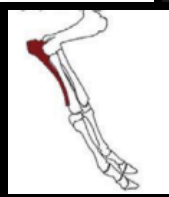
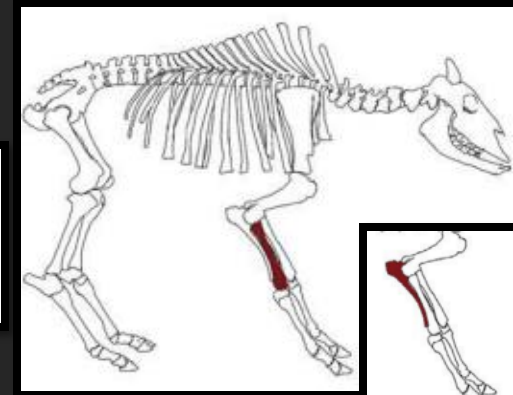
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COW



HORSE



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Photos: (France, 2008)

Vertebrae



HUMAN



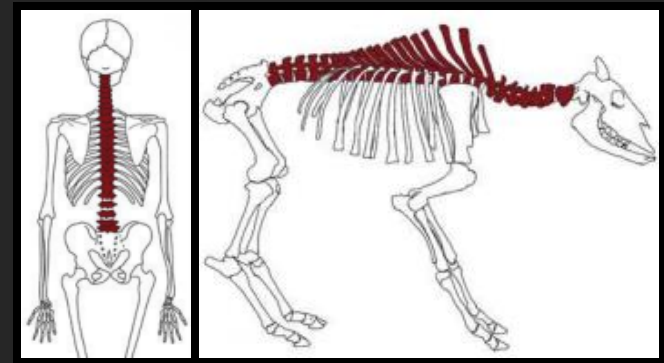
BISON



DEER



BEAR



PIG



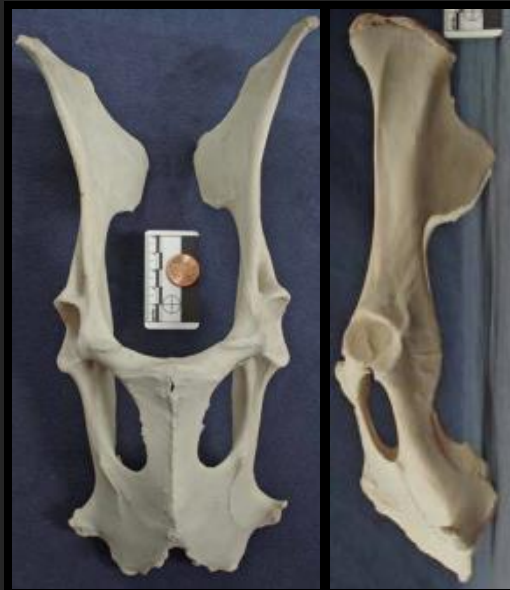
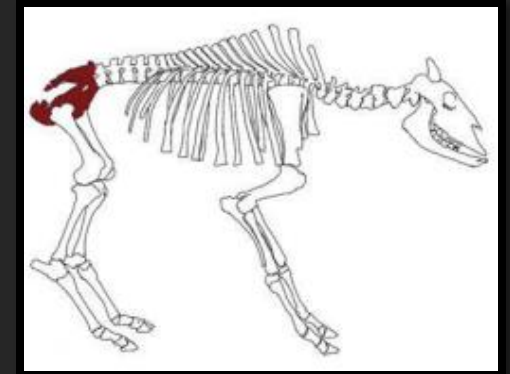
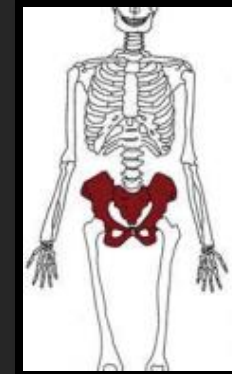
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Pelvis



HUMAN



DEER



BEAR

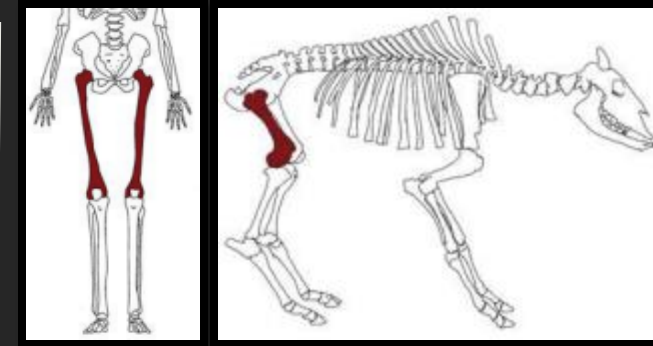


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Photos: (France, 2008)

Femur



HUMAN



BEAR



DEER



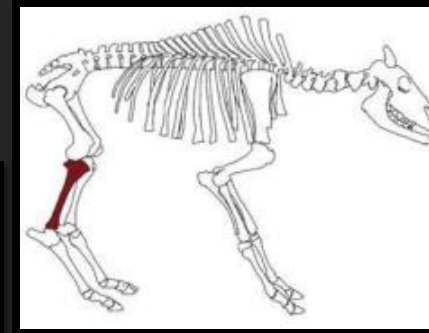
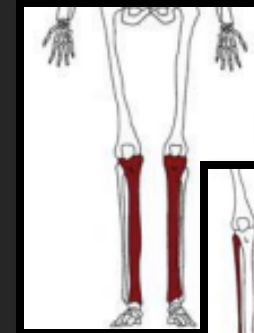
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Photos: (France, 2008)

Tibia and Fibula*



HUMAN



BEAR



DEER*



ANTEL.*



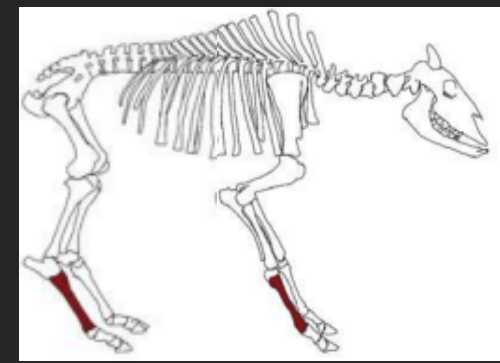
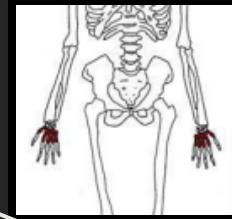
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MNT. LION

NOTE: Images are NOT to scale – Reference ruler for size

Hands, Feet, & Forelimbs



BEAR



NOTE: Images are NOT to scale – Reference ruler for size

Photos: (France, 2008)



Questions?



References

Christensen, Angi M., Nicholas V. Passalacqua, and Eric J. Bartelink. *Forensic anthropology: current methods and practice*. Academic Press, 2019.

France, Diane L. *Human and nonhuman bone identification: a color atlas*. CRC Press, 2008.

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Larson, Plew, Anderson and Halford. *Procedures for Human Skeletal Discoveries in Idaho*. 2018

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U.S Congress. Senate. *NATIONAL HISTORIC PRESERVATION ACT*. 105th Cong., 2nd sess., 1998. S. Rep. 105-389. <https://www.govinfo.gov/app/details/CRPT-105srpt389/CRPT-105srpt389>.
