A close-up, macro photograph of a water droplet on a light-colored, textured surface. Inside the droplet, a small, dark, multi-lobed embryo is visible, likely a developing insect or arachnid. The background is a soft, out-of-focus light gray.

Administrative Controls and PPE in the Ectotherms Department

Theresa Plass

Fort Worth Zoo

AAZK Safety Committee

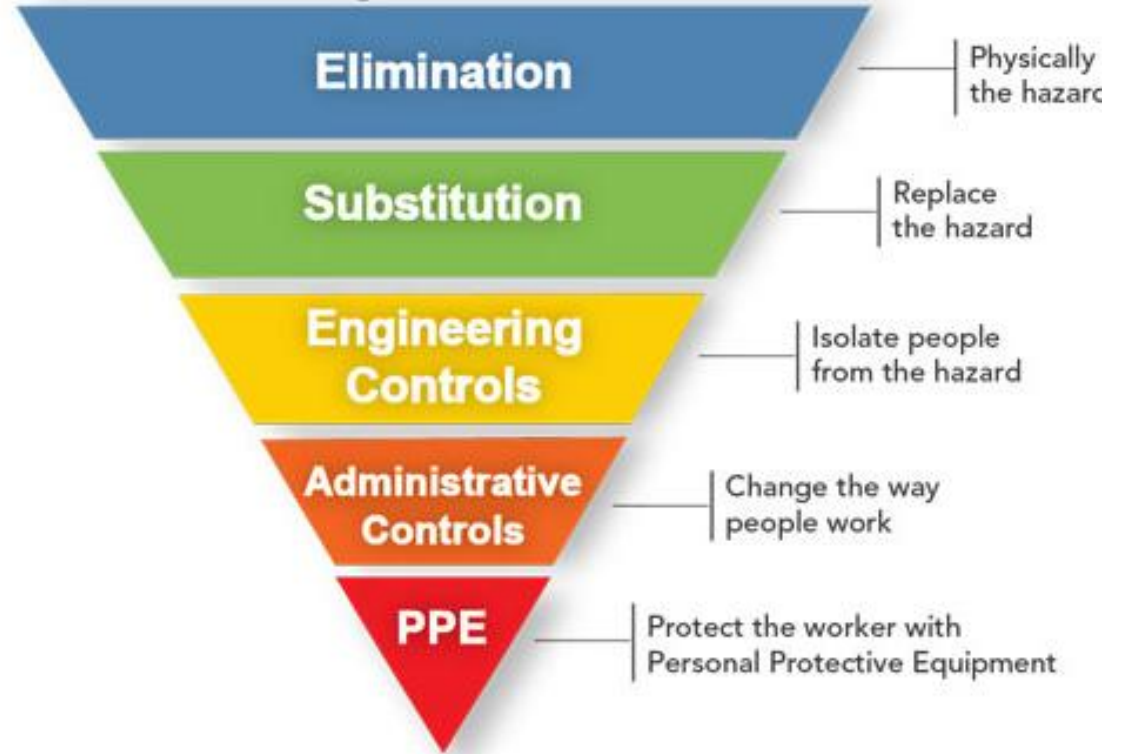
Working with Ectotherms

Elimination and Substitution are difficult

Engineering Controls are applicable in some cases

Administrative Controls and PPE are most used

Hierarchy of Controls



Elimination, Substitution, and Engineering Controls

- Only keep “non-dangerous” species
- Is protected contact an option?
- Design considerations
- Dedicated keys and locks for dangerous animals



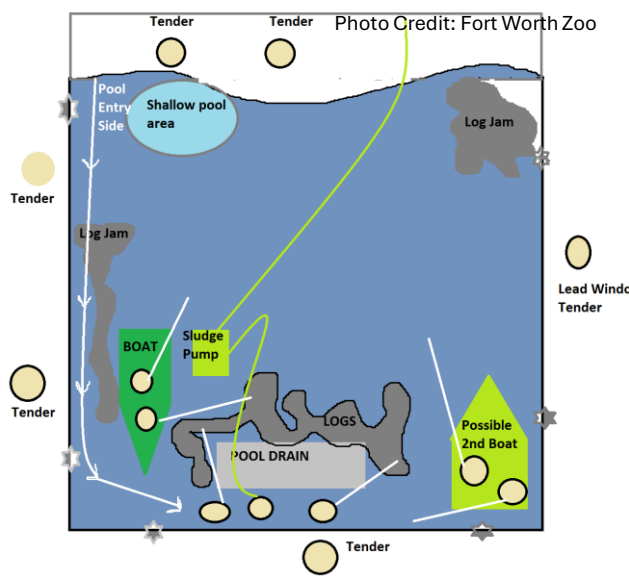
Photo Credit: Robyn Doege



Photo Credit: Fort Worth Zoo

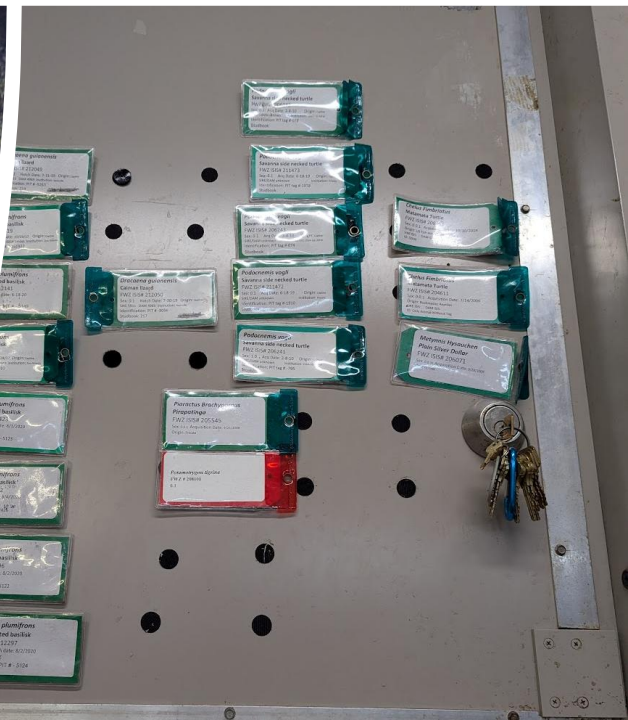
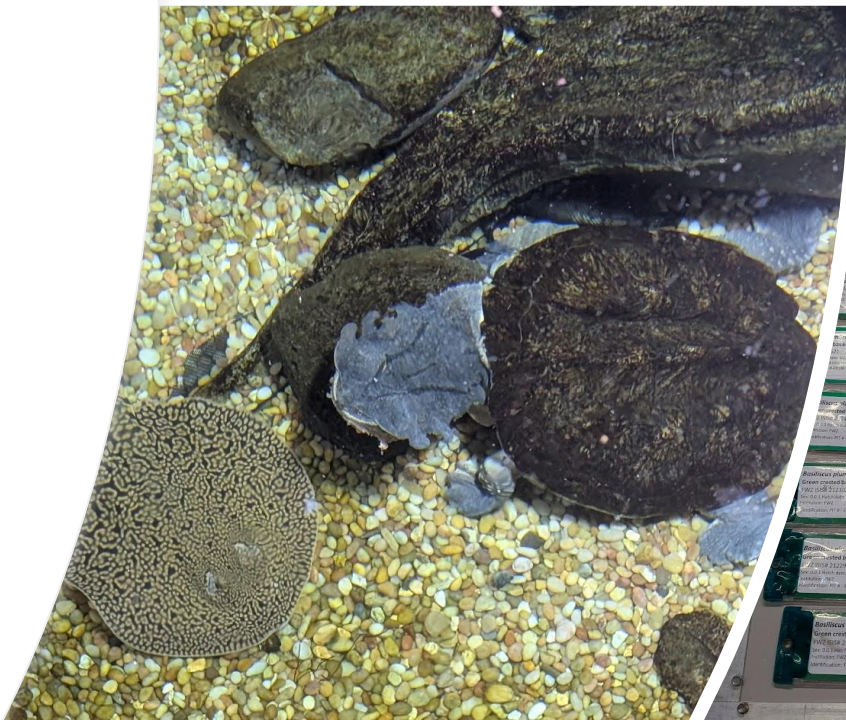
Administrative Controls

- Training and Policies
 - Know proper handling techniques
 - Know locations
 - Routine schedules
- Run practice drills
- Limit time with dangerous situations
 - Many ectotherms do not eat every day
 - Avoid entering spaces unless necessary
 - Does the shed need to be removed?
 - Can the water dish be cleaned at another time?
 - Combine tasks whenever possible and appropriate



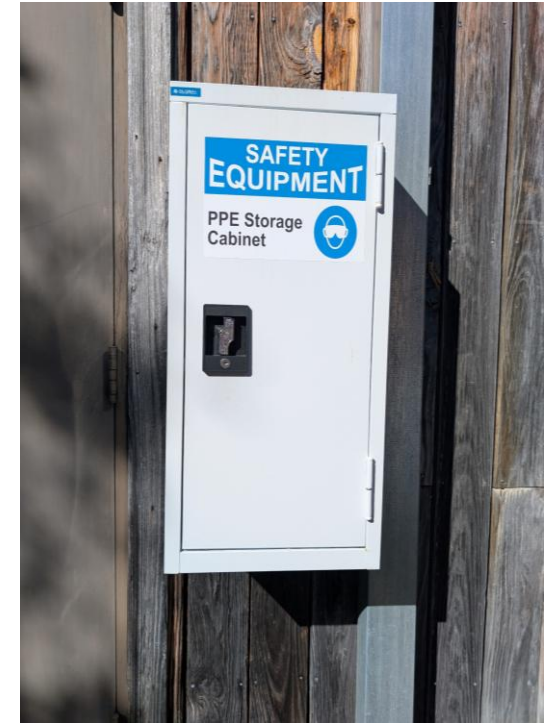
Administrative Controls

- Signage
 - Red labeling on dangerous animals
 - Entry labels when working “hots”
- Dedicated team
 - Always have 2 people in he building
 - Announce guests in the building
- Animal counts and locations



PPE

- Goggles protect from spraying invertebrates
- Gloves and Face Shields protect against some zoonotic diseases
- Shields and Snake Hooks for redirecting
- Dedicated boots at each exhibit
- Equipment for moving the animal
 - Tongs or Forceps
 - Cups or Bottles
 - Thick Gloves



PPE

- Employee Training
 - Know the species
 - Know toxicity
 - Know zoonoses
 - Know how to use PPE





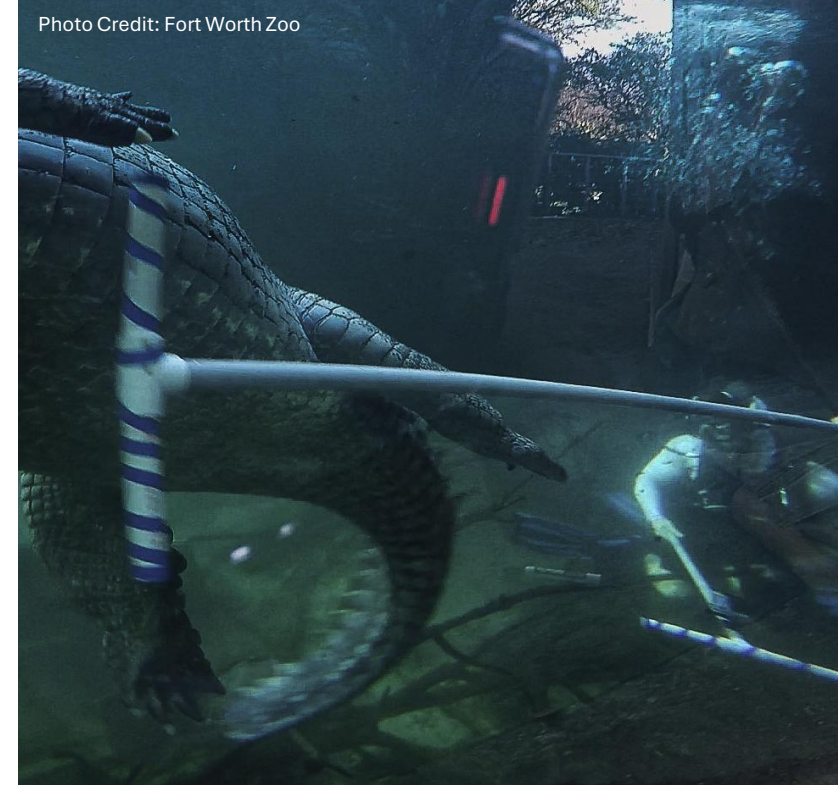
Diving

- Routine checks of dive gear and water quality
- Tender and Secondary Staff
 - Maintain visual contact of diver
 - Keep poles between diver and animals
- Movements around animals

Photo Credit: Fort Worth Zoo



Photo Credit: Fort Worth Zoo



Monitoring, Inspection, and Replacement

- The further down the Hierarchy of Controls the greater need for monitoring and implementing programs
- Monitor for effectiveness
- Routine checks that PPE is in appropriate locations and properly functioning

Hierarchy of Controls

