Wisconsin Snake Rehabilitation

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Educate about snakes!!

- Persecution: WHY?? Misunderstandings, wild imaginations, folk tales
- Humans have a natural curiosity about snakes
Educate about snakes!

- Media misrepresentation
- Fear of snakes is a learned behavior
- Timid creatures who avoid encounters and generally only bite if handled
Educate about snakes!

- The threat they pose is quite limited today.
- Dying from a snake bite occurs less than 1 in 34 million.
- More likely to die of lightening strike, hunting accident or drowning.
Educate about snakes!!

- Value of snakes
- Agricultural and residential pest control
- Value in nature
  - Role in food web of predator and prey = balanced ecosystems
- Consume insects and small vertebrates
Educate about snakes!!

- Understand and appreciate status
  All of Wisconsin’s 22 snakes have experienced decline:
  - Habitat loss due to fragmentation
  - Human persecution including bounties

![Graph showing the status of Wisconsin's 21 snakes]

- 18% endangered
- 5% threatened
- 32% special concern
- 45% moderate declines

Currently 55% face an uncertain future.
Educate about snakes!!

- Family, friends, neighbors, the public, and animal presenters
- Nature and rehabilitation centers, schools, clubs, community centers and parties
- Resources: educational programs, websites, handouts and Facebook
- Every moment can be a learning experience
Worst Enemies

- **Human is #1**
- Other snakes, raptors, cranes, herons, opossums, skunk, bear, badgers, raccoons.
- Livestock: chickens, ducks, geese and turkey
Wisconsin snake facts

- Active April- Oct.
- Can hibernate in an underground hibernacula for 6-7 months
- In summer may be more nocturnal to avoid overheating
Wisconsin snake facts

- Some ovoviviparous (lay eggs), others are viviparous (live birth)
- Some actively pursue prey and others ambush
- 13 species reach the northern limit of their range in WI.
Wisconsin Snake Facts

- Venomous Snakes
- All of Wisconsin's venomous snakes are native to the South-western portion of the state near rivers
- Water moccasins and Copperheads don’t occur anywhere near Wisconsin
- Eastern Massasauga Rattlesnakes are Wisconsin’s most endangered reptile
Identification

- Wisconsin snakes
- 22 types
- Colubridae family (Colubrid)- 20 non-venomous species and 2 subspecies
- Viperidae family (Pit vipers)- 2 species
Identification

- The following snakes are protected
- **Endangered Snakes**
  - Eastern Massasauga Rattlesnake (1975)
  - Eastern + Western Ribbon Snake
  - Queen Snake
- **Special Concern Snakes**
  - Timber Rattlesnake (1997)
  - Black rat snake or Pilot Snake
  - Bullsnake (Gophersnake)
  - Butler’s Garter Snake (removed 1-1-14)
  - Yellow-bellied or Blue Racer
  - Prairie Ringnecked Snake
  - Northern Ringnecked Snake
Identification

- **Species of special concern**
  - Eastern Hog-nosed
  - Western Wormsnake
  - Lined Snake
  - Eastern Plains Garter Snake

- **Common**
  - Common Garter Snake
  - DeKay’s Brown Snake
  - Western Fox snake (Pine)
  - Eastern Milk Snake
  - Northern Red-bellied Snake
  - Northern Water Snake
  - Smooth Green Snake
Identification

- Have callers send a picture
- Keep potentially escaped exotic pets in mind
- Have callers use the DNR website
Identification

● **Characteristics**

● Ectothermic (cold blooded)
● Shy and secretive
● Specialized locomotion
● Jaw is loosely connected by ligaments
● Escape artists
● Adorable
Identification

- **Characteristics**
- No eyelids or ear openings make’s for poor eyesight and hearing
- Unique sense of smell (Jacobsen’s organ)
- Specialized scales- keeled and unkeeled
Snake Anatomy
Common Gartersnake

- Thamnophis sirtalis (18-48in), females are the larger
- Keeled scales with lateral stripes only on scale rows 1, 2 and 3
- In every habitat in every WI county with common status
- Diet: amphibians, fish, earthworms, insects
Common Gartersnake

- Behaviors
  - Energetic, defends itself by coiling and “musking”
  - Will den in large numbers “denning”
  - Over wintering in open canopy wetlands
Northern Redbelly Snake
Northern Redbelly Snake

- Storeria occipitomaculata (8-10in.)
- Little with pink or red belly, smallest WI. snake
- Commonly found state wide but more abundant Northeastern WI.
- Dry hilly woodlands, boreal and hardwood forests, sphagnum bogs, adjacent fields
- Insects: slugs, earthworms, and beetle larvae
Northern Redbelly Snake

- **Behaviors**
  - Active, diurnal
  - Never bites but curls up upper lip
  - May be seen in large #'s on sunny fall days basking
  - Good climbers
Western Fox Snake
Western Fox Snake

- Pantherophis vulpine (34-70”)
- Background color yellow-tan with elongated reddish-brown oval blotches
- Common in WI.
Western Fox Snake

- Prefer open forests and rolling prairie grasslands with rocky crevices
- Diet: deer mice, voles, gophers and baby rabbits but occ. nestling birds and eggs
- Musky anal secretions, odor is fox like
Western Fox Snake (Pine)

- **Behaviors**
- Diurnal, terrestrial constrictors that spend much of their time hunting
- Will vibrate its tail in dry leaves or grasses which sounds like a rattlesnake
Bullsnake (gophersnake)
Bullsnake (Gophersnake)

- Pituophis melanolerucucus or catenifer sayi
- 37-100” (3-8’) Males larger than females
- Yellow and black snake with heavy body and robust head
Bullsnares are a species of special concern and of the greatest conservation need as well as a protected animal.

- Heavy wooded bluff faces and sand bluff prairies.
- Diet: rats, mice, gophers, ground squirrels and woodchuck occ. large insects, birds and eggs.
Bullsnake (Gophersnake)

- Behaviors
  - Has the loudest hiss in the snake world by exhaling through a dissected glottis
  - When threatened turns into a “bull”, snorts and grunts, will coil and flatten its head and vibrate its tail
Common reasons for intake

- HBC- #1
- Human conflict and abuse
- Displaced
  - In a dwelling in winter
  - Kept as pets
- Lawn mower injuries
Conflict management

- Emphasizing harmlessness of snakes
- Modify outdoor habitat by removing hiding places
- Teach tolerance
Conflict management

- **Snake in a dwelling**
- If indoors; seal all holes from indoors first then outdoors
- For the last hole, place screen tube out of hole and place distal tube end above ground
- Leave tube in place for 1 month, but in fall leave until spring
Rescue tips

- When to rescue?
- If physical injuries
- If seen in a dwelling or outdoors in the winter
- If being kept as a pet
Rescue tips

- Place a plastic container over snake then slip the lid with small holes underneath, carefully right container
- Transport in a plastic container or pillowcase
- Transparent containers should be covered to decrease stressful visual stimuli
Care in rehabilitation

- Snake Handling!
  NO
Care in rehabilitation

- **Handling**
- Large or aggressive snakes use gloves and towel, if needed grasp behind head and support body.
- Calm non-aggressive snakes - support whole body and let move freely
Care in rehabilitation

- Find a reptile veterinarian- important?
- Medications
- Humane euthanasia
- Radiographs: fractures? gravid?
- Share knowledge and resources
- See Association of Reptile and Amphibian Vets: www.arav.com
Snake husbandry

- **Basic requirements**
- Enclosures - simple, non-abrasive and disinfectable
- Material - glass, plastic, rust resistant metal or fiberglass
- Size - length equal to or exceeding the length of the snake and width one half the snake’s length (see minimum standards)
Snake husbandry
Snake husbandry

- **Substrate**
- Newspaper
- Paper towels
- Indoor/outdoor carpet
- Cypress mulch
- Sphagnum moss
- Use combinations!!
Snake husbandry

- Furniture
- Non-tip water dish
- Hides- tubes
- Plants
- Rocks
- Climbing branches
Snake husbandry

- **Temperature**
- Digest food, resist infection, heal and stimulate maturation of gametes
- Use heat lamps and under tank heaters
- 85-95d “Hot side”, basking area
- 72-80d “Cool side”
- NO “thermal limbo” 59-71d
Snake husbandry

- Humidity and ventilation
- Must have good ventilation
  *Water vapor on walls, not good ventilation!*
- Provide a high humidity 60-90% retreat (humidity box), also for reproduction
Snake husbandry

- **Lighting**
- No full spectrum necessary but ok
- Day / night cycle same as naturally occurring

- Cleaning and disinfecting:
  Chlorhexidine then 1-30 dilute bleach
Snake husbandry

- For healthy snakes, highly recommend; illuminated and well ventilated enclosure with as natural appearance as possible
Snake husbandry

- Feeding
- Feed native diet if possible
- Rats, mice, crickets, wax worms, red worms, earthworms, minnows and poss. egg
- Pill bugs, slugs
- May need to scent mark prey item
Snake medical care

- 1st aid
- Check airway
- Stop bleeding
- Get warm
- Get hydrated
Snake medical care

- **Wound care**
- **Flushing** - use 60ml syringe with 18g needle. Flush until clean with sterile saline warmed to 85d.
- **Cleansing** - use dilute Betadine or chlorhexidine
Snake medical care

- Wound care
- Apply topical ointment: Silver sulfa, Healx, Manuka honey?
- Get veterinarian’s advice
Snake medical care

- Fluids and injections
- Injections - most I.M. (intramuscularly) in middle 1/3 of snake on either side of the spine at 45 degree angle
- Fluids - give 20mls/kg intracoelomic (I.C.) SID in the ventral aspect of the caudal (back) 1/3 of the snake
Snake medical care

- **Euthanasia**
- See acceptable methods in Minimum standards
- Don’t make decision alone
- Use Sodium Pentobarbital 0.8ml/1# I.C. Give 2 or more inches above vent
Release

- Prefer closest proximity
- Within 5 miles of original capture site
- If not known speak with DNR herpetologist or reptile contact
- Rory Paloski - Conservation biologist
  rori.Paloski@wisconsin.gov
  608-264-6040
Release

- Not less than 2 weeks before normal hibernation time
- Acclimate outside for a few days pre-release
- Stable weather
Thank you

- In the end we conserve only what we love
- Will love only what we understand
- We will understand only what we are taught

Steve Irwin
Next year- Nicaragua’s Wildlife!!!!