Lions, Tigers, and Bears—Oh My! Parks and Natural Hazards

DATE AND TIME  
Tuesday 23 February 2010 / 1PM-2PM and 215PM-315PM

SPEAKER(S)  
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SESSION DESCRIPTION

For our local parks, the Wizard of Oz line should read “poison ivy, stinging nettles, bee stings, oh my!” The outdoors is fraught with nature “nasties,” but with an ounce of prevention and education, you can help protect your patrons and your employees from ugly encounters. Help your visitors get over the fears and barriers to getting out in the parks through understanding the perceptions, problems and solutions presented by natural hazards.

(1PM)

Presenters Amanda Smith and Megan Gutierrez discussed many “nasties” which park visitors may not have much education about and which may inhibit guests from coming out to the park system. Poison ivy topped the list of the
nasties and the presenters taught how to identify the plant (leaves of three let it be, berries of white run in fright, etc.), discussed why poison ivy affects the skin and various ways to treat a poison ivy rash (including using jewelweed). Other plants discussed were poison oak and poison sumac as well as stinging nettles. The next critters on the list were chiggers and ticks. The presenters talked about where these arachnids are found most commonly and how they “attack” humans. They spoke about how to deal with these little problems, how to treat as well as how to avoid, and how to identify the different variety of ticks. The next topic was venomous snakes, identification of the snakes, where they are most commonly found, and how they act when agitated. The brown recluse and the black widow spider also made the list of nasties and attendees were advised on where to find these spiders and how to identify them (though it was noted that if you were close enough to clearly identify one, you were probably a little too close for comfort). Different varieties of bees wrapped up the list. The presenters spoke about the different kinds of bees found in parks and which bees were considered a danger to sting and which ones were innocuous.

(215PM)
This session covered the basics of natural hazards and nuisances such as poison ivy, stinging nettle, chiggers, mosquitoes, bees, hornets, ticks, venomous snakes, and spiders. Amanda Smith showed how to identify the hazards, and detailed the mechanisms that made each hazard harmful. She also listed proper and improper treatment for each hazard. A key theme in the session was proactive treatment rather than reactive treatment. She emphasized taking the necessary precautions to mitigate possible interactions with the hazards (bug sprays, long pants, etc.), especially by those who might be prone to extreme reactions, rather than finding the best way to relieve the nasty side effects after an encounter.

SESSION LEARNING OBJECTIVES
- Identify natural hazards common to parks in the Great Lakes region.
- Address the public’s negative perception of these hazards by developing techniques for preventing encounters with natural hazards in your park, and educating the public as to the benefits of nature in general.
Nature's Nasties
Learning, understanding, and coping with the things that may keep users out of our parks.
Education + Understanding = power over fear

Presenters:
Amanda Smith
Megan Gutierrez
Hamilton County Parks & Recreation Naturalists
Indiana

- Leaves of 3; let it be
- Berries of white; run in fright
- Hairy vine; no friend of mine
Poison Ivy, *Toxicodendron radicans*
- Member of the Cashew Family (poison oak, poison sumac, mangos)
- Urushiol Oil
  - (clear, colorless sap)
- Can stay active for...pretty much... ever
  - ¼ ounce is all that is needed to cause a rash on everyone on earth!
- Benefits

Poison Ivy Fact or Fiction?
- Red stem and/or red dot
- Can you be immune?
  - 1 out of 10 odds
- Leaves are shaped like a mitten
- Burning can cause a reaction
- The oil can stay on your clothing for years
- Scratching will cause it to spread

Treating Poison Ivy
- Wash exposed area within 1-30 minutes
  - Cold/Cool Water: Creek, hose, shower
  - Hot water opens pores
  - Mild soap
  - Jewelweed
- Wash clothing, tools, equipment, shoes that came in contact with plants

Other Nasty Plants
- Poison Oak
  - Not found in Indiana (really!)
- Poison Sumac

Chiggers
- Member of the Arachnid family: adults have 8 legs/larva only have 6
- Only larva feed on flesh; nymphs & adults do not
- Microscopic 1/125-inch
- Benefits
Chiggers, *Toxicodendron radicans*

*Also called jiggers, red bugs, & harvest mites*

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**Chiggers’ MO**

*Can be found in any natural area*

- Concentration in areas--none a few yards away

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**Chigger’s MO**

*Larva are on the move and will quickly find a new object in their area*

- Can move rapidly
  - Can get all over a person’s body in 15 minutes
  - 5000 x its’ body size (like climbing a mt.)

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**Chigger’s MO**

*Find a tender spot to dine*

- Thin skin, wrinkled anatomy like armpits, elbow folds, behind the knees, waist band

**Chiggers Suck!** (not burrow)

- Pierce the host skin, inject an anticoagulant & an enzyme to liquefy skin cells
- Women and children tend to get bitten more than men

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**Stylostome:** hard tube-like structure formed by your body as a reaction to the digestive saliva walls off the corrosive saliva, but also functions like a feeding tube

- Longer the chigger is attached, the longer the stylostome=THE MORE ITCHING

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**Avoiding Chiggers**

*They are most active in the afternoons*

- Ground temps b/t 77 to 86 degrees
- Inactive when temps fall below 60 degrees
- They avoid objects hotter than 99 degrees

**Tuck pants legs inside boots**

**Bug spray (reapply in 2 to 3 hours)**

- 10% for children / 30% for adults

**Cuffs, waistbands, boot tops**

**Powdered Sulphur**
Coping with Chiggers
- When you get home, take off clothes and wash them
- Take a warm, soapy bath with lots of scrubbing
  - Will remove attached chiggers and those looking to attach
  - Use a towel or cloth to rub off chiggers in target areas if bathing isn’t possible

Coping with Chiggers (what not to do)
- DO NOT use household chemicals like fingernail polish, alcohol, bleach
- Lotions, antihistamines, and steroid creams can help relieve pain
- Only true cure is time
  - The stylostome can take weeks to break down and absorb into the body

Stinging Nettle, *Urtica dioica*
- Common in moist woods and thickets
- can grow 6 feet tall
- Genus name means to burn

Stinging Hairs on stem and leaf edges
- Hollow tubes with wall of silica/tiny glass needles
  - pressurized
- base of the tube contains stinging liquid
  - formic acid
  - histamine
  - acetylcholine
  - serotonin

Treating Stinging Nettle
- Treat area with cool, clean water
- Jewelweed is a great local treatment
- Avoid shorts
- Stay on the trail
  - avoid edges
Ticks

- Member of the Arachnid family; adults have 8 legs, larva only have 6
- Can not fly; can only crawl
- Lie in wait on vegetation like grasses & shrubs

Benefits?

Deer Tick or Black Legged Tick
- can be found in the Northeast, Upper Midwest, and the Pacific

National Lyme disease risk map with four categories of risk

Note: This map demonstrates an approximate distribution of predicted Lyme disease risk in the United States. The true relative risk in any given county compared with other counties might differ from that shown here and might change from year to year. Risk categories are defined in the accompanying text. Information on risk distribution within states and counties is best obtained from state and local public health authorities.
Brown Dog Tick
- Also known as the kennel tick
- Mainly feeds on dogs
- Can live out its life cycle inside homes

American Dog Tick
- Also known as the wood tick
- Can transmit Rocky Mt. Spotted Fever

Lone Star Tick
- Commonly mistaken for the Deer tick

Avoiding Ticks
- Choose light-colored clothing
- Spot check your group often
- Stay on the trails and in the center
  - Avoid brushing up against plants
- Ticks are active on winter days
  - Ground temps around 45 degrees
- Bug spray (reapply in 2 to 3 hours)
  - 10% for children / 30% for adults
  - Cuffs, waistbands, boot tops

Getting Rid of Ticks
- Wear latex/vinyl gloves
- If found crawling on you
  - Use the back side of tape to grab it
- If found embedded
  - Use tweezers to remove
  - Don’t screw; pull straight out
  - Don’t use gasoline, matches, cigarettes, fingernail polish or other “old-timey” removal methods
  - Clean your skin & save tick in plastic bag

Venomous Snakes
- All four venomous snakes found in this area are considered rare
- Identification of a venomous snake
  - Triangular shaped head
  - Elliptical shaped pupil
- Benefits
Copperhead
- Probably the most common of the venomous snakes in our area
- Can be found in most any environment
  - prefer waterways, viney areas
  - Snake responsible for most venomous bites in US
- Have the mildest venom
  - An agitated Copperhead will vibrate its tail
  - in the same family as the Cottonmouth

Natural coloration makes the snake extremely hard to detect!!!

Eastern Massasagua (Rattlesnake)
- State endangered in Indiana
- Also called the Pygmy Rattlesnake
  - prefers wet prairie, swamps and wetlands

Timber Rattlesnake
- State endangered in Indiana
- Prefers heavily forested areas and rocky hillsides
- Coloration is highly variable from sulfur yellow to brown, gray or black
Eastern Cottonmouth
- State endangered in Indiana
- Only one confirmed/documented observation in Indiana (unexplained)
- Range primarily southern
- Prefers aquatic habitat

Can live up to 20 years
Not aggressive—most bites are due to people picking them up

Commonly confused with the non-venomous Northern Water Snake
Can be aggressive when encountered

So long as you are mindful of the inherent dangers associated with your surroundings, you will be able to avoid them.

*Safety is no accident*

Spiders
- Almost all spiders are considered “venomous” (only two families lack venom glands)
- Midwest has two spiders that are “medically significant”
- Benefits

Brown Recluse
- Also called the “fiddleback spider”
- As name suggests, this spider is very reclusive
- Will only bite when disturbed
- Primarily nocturnal
- Sheltered areas with low moisture levels; homes are common sites within their range

Range of recluse (genus Loxosceles) spiders in the United States
Black Widow Spider
- Most commonly found in the south
  - 5 species (2 common Northern and Southern)
- The female will often eat the male after mating
- Will only bite when disturbed or when protecting her egg sack
- Venom is 15 times stronger than a rattlesnake, but fatalities are rare
  - Small children and the elderly are more susceptible to major complications
  - Venom is a neurotoxin
    - Will block transmission of nerve impulses
    - Muscle aches, nausea, & difficulty breathing
    - Typically two puncture marks will be visible
- Black Widow Bite

Honey Bees
- Hives are located in hollow trees, cavities, or beekeeper box
  - Also build hives underground
- Can only sting once
- They will defend a hive
- Females may overwinter in the hive
Carpenter Bees
- Are considered "wood destroying" insects
- Drill small 3/8" hole with their mandibles
- Resemble bumble bees, but lack the fuzzy abdomen
- Males don’t have stingers, female can sting, but rarely do
  - they act aggressive
- Over winter in wood

Bumble Bees
- Primary pollinator of spring wildflowers
- Social; nest in existing cavities on or under the ground abandoned mouse nests or anything with soft materials
- Very rarely aggressive
- Fertilized Queens survive the winter

Bald-faced Hornets
- Basketball sized nest
  - made by chewing tiny amounts of wood
- Can sting multiple times
- Extremely painful sting
- Nests might not need removed, they generally are not overly aggressive
- Queens over winter
- Beneficial because they catch other insects

Paper Wasps
- Unprotected combs built in attics, eaves, old cars
- Can sting multiple times
- Not as aggressive in comparison
- Female over winters

Yellow Jackets or Ground bees
- Hives underground
  - 2 inches to 2 feet underground
  - Use abandoned rodent burrows
- Multiple sting
- AGGRESSIVE; especially late summer/early fall
- Eat meats, sweets, ripe fruit, & garbage
Cicada Killer Wasp

Ichneumon Wasp

Mud Dauber Wasp