What Information Will be Reviewed...

- Hazardous Plants
- Invasive Plants
- And some other information
Hazardous Plants

... and some not so hazardous ...
Poison Ivy

- Approximately 85 percent of the population will develop an allergic reaction if exposed to poison ivy.
- Try to avoid direct contact. But clothes, shoes, tools, and anything else that may have been in contact with it can re-spread it back to you or others who come in contact with it.
- “Leaves of three – let them be.” Oftentimes shaped like a mitten.
Poison Ivy
Poison Ivy

• Use a “pre-treat” if there’s a risk of exposure.

• If you've been exposed to poison ivy:
  • First, clean exposed skin with isopropyl (rubbing) alcohol.
  • Second, wash skin with cool water (only).
  • Third, wash with soap and warm water.

• After this regimen, you need to be done working outside for the rest of the day as this removes your natural oils and also allows for the poison ivy oil to immediately do its work on you.
Poison Sumac

• It is relatively rare compared to the other members of the family.

• The rash-causing agent, urushiol, is the same as with poison ivy, and it causes the same rashes.

• While poison sumac is rare, when you find it in its typical wetland habitat, you may find quite a bit.

• According to the USDA Natural Resource Conservation Service’s PLANTS Database, poison sumac is mostly found growing in southern lower Michigan with only a few scattered locations in the northern portion of the Lower Peninsula. It is not known to be native to the Upper Peninsula (but some websites show it moving in from Wisconsin).
Poison Sumac

Note the red.
Cow Parsnip

- A native plant very similar to giant hogweed.
- Cow parsnip is smaller, reaching a maximum height of 6 to 8 feet in Michigan.
- Unlike giant hogweed, the stem may be entirely green or have only a slight purplish cast.
- Stems are deeply ridged, often hairy below the nodes, often hairy throughout and no greater than 2 inches in diameter. Hairs on cow parsnip are fine – soft and fuzzy – rather than coarse as on giant hogweed.
- Leaves are compound, up to 2.5 feet across, and contain three large, broad leaflets. Leaflets are deeply lobed with coarsely toothed margins. Stem leaves are smaller and their leaf stalks almost circle the stem at the node.
- Although present on both leaf surfaces, the soft hairs are primarily confined to the lower leaf surface and have a velvety appearance. These lower leaf hairs are about 1 mm long and are often the best distinguishing characteristic from giant hogweed.
- Cow parsnip has white flower clusters similar to those of giant hogweed, but these are flat-topped and smaller at 6 to 10 inches across. Cow parsnip generally flowers from early June through early July in Michigan, typically several weeks before giant hogweed.
Cow Parsnip
Giant Hogweed

• Giant hogweed is originally from Asia and was introduced as an ornamental plant, but unfortunately now grows wild in several states. It is similar in appearance to the cow parsnip and wild carrot (Queen Anne’s lace).
• It reaches a height of 10 to 15 feet when in flower and has hollow stems, 2 to 4 inches in diameter with dark reddish-purple spots and bristles.
• Deeply incised compound leaves grow up to 5 feet in width.
• Giant hogweed flowers mid-May through July, with numerous white flowers clustered in an umbrella-shaped head that is up to 2.5 feet in diameter across.
Giant Hogweed

- Giant hogweed's clear, watery sap contains a toxin that causes photodermatitis, meaning skin contact followed by exposure to sunlight produces painful, burning blisters that may develop into purplish or blackened scars.
- The best thing people can do is to avoid exposure. Wear protective clothing, such as gloves, long sleeves, pants, hats, and protective eyewear to prevent skin contact with the sap.
- If skin comes into contact with the sap, wash immediately with soap and water.
- **If found:** Report sightings of giant hogweed to the Midwest Invasive Species Information Network: [www.misin.msu.edu](http://www.misin.msu.edu).
Giant Hogweed
Wild Parsnip

- Wild parsnip grows up to 5 feet tall.
- Has hollow grooved stems that are hairless.
- Leaves resemble large celery leaves and are yellow-green, coarsely toothed and compound, with three to five leaflets.
- Small, yellowish flowers form umbrella-shaped clusters in a flat-topped array approximately 3 to 8 inches across.
- Flowering occurs in June and July.
- Seeds are flat, brown, and slightly winged to aid wind dispersal in the fall.
- The plant tolerates a range of soils and moisture levels but requires sun. It is often found in open areas, pastures, fields, roadsides, and disturbed areas.
Wild Parsnip
Wild Parsnip

- Stem, leaves, and flowers contain chemicals in the sap that, when contacted, can cause photodermatitis with reactions ranging from increased skin sensitivity to sunlight to severe rash or blistering.

- This reaction can also cause discoloration of the skin and increased sensitivity to sunlight that may last for years.

- The reaction can be similar to a severe sunburn and may take 24 to 48 hours.

- If you touch or brush against the plant inadvertently, you may be able to do so without harm as wild parsnip is only a health hazard when the sap gets on skin from broken leaves, flowers, or stems.
Wild Parsnip

- Wear gloves, long-sleeved shirts, pants, boots, and eye protection if working near wild parsnip to prevent skin contact with the sap.
- Wash the affected area thoroughly with soap and water, and keep it covered for at least 48 hours to prevent a reaction.
- If a reaction occurs, keep the affected area out of sunlight to prevent further burning or discoloration. Relieving the symptoms comes first. The affected area can be covered with a cool, wet cloth.
- For serious cases with extensive blistering, consult a physician. It may require the use of a topical or systemic cortisone-steroid.
- **If found:** Report sightings of wild parsnip to the Midwest Invasive Species Information Network: [www.misin.msu.edu/](http://www.misin.msu.edu/).
Invasive Plants

MDOT Invasive Species Control on Roadsides and Rights of Way
Definition

• An invasive species is defined as a species that is not native and whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health.
Control and Management Policy

- MDOT performs control/management of invasive plant species under the following conditions:
  - When a species poses a safety concern to the traveling public, or operational/maintenance difficulties.
  - MDOT has a statutory or regulatory obligation to control the species.
  - Requests for treatment by governmental entities for interagency cooperation (case by case basis, within the limits of available staff and funding).
Cooperative Invasive Species Management Areas
MDOT’s Biggest Concerns

- Safety: Clear vision, recovery zone.
- Operational: Drainage, covering infrastructure.
- Environmental: T/E Spreads, water quality.
MDOT’s Invasive Plant Species List

- Autumn olive
- Black swallow-wort
- Buckthorn
- Canada thistle
- Garlic mustard
- Giant hogweed
- Giant ragweed
- Japanese knotweed
- Kochia
- Leafy spurge
- Oriental bittersweet
- Phragmites
- Purple loosestrife
- Reed canary grass
- Spotted knapweed
- White clover
- Yellow clover
Invasive Species Guide

Current Laws and Regulations for Terrestrial and Aquatic Invasive Species

Aquatic Invasive Species
http://www.epa.gov/ghpo/invasive/

Prohibited and Restricted Weeds
http://www.michigan.gov/mda
rd/0,1677,7-125-1569_16993-11250-_90.html

State Weed Laws
http://na.fs.fed.us/spfo/invasiveplants/states/mi.asp#weedlaws

Michigan Seed Law of 1965

Noxious Weed Law of 1941

General Invasive Species Information
http://mni.anr.msu.edu/invasive-species/factsheets.cfm
Species Information: Common name, species name, habitat, distribution, description, reproduction, its problem for MDOT, and management guidelines.

**Purple Loosestrife**

**Scientific Name:** Lythrum salicaria

**Type:** Herbaceous perennial

**Habitat:** This species prefers disturbed and wet areas with heavier soils and full sun but it will survive in partial shade.

**Distribution:** Predominantly in the Lower Peninsula.

**Description:** Purple loosestrife is an herbaceous perennial that grows 1.5 to 6 ft. tall. Leaves are simple, lance shaped and opposite or whorled. Stem is four-angled and hairy. Flowers are purple to light pink with five-seven petals and form a spike. It has a strong taproot that becomes woody with age. Blooms July to October.

**Reproduction:** This species reproduces by seed or vegetatively by re-sprouting from cut stems or roots.

**Problem for MDOT:** This persistent weed spreads vigorously under moist soil conditions and favors disturbance similar to MDOT ROW. Once established it crowds out native wetland plant species and will quickly dominate the surrounding vegetation in MDOT's wetland mitigation sites. It is listed as a Prohibited Plant Species under NREPA.

**Management Guidelines:** Successful control of this species can be implemented with the use of a leaf-eating beetle (Galeruca cantharum, G. psylla).

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**Reed Canary Grass**

**Scientific Name:** Phalaris arundinacea

**Type:** Perennial Grass

**Habitat:** Found in marshes, ditches, wetlands, and the edges of streams, ponds and lakes.

**Distribution:** Throughout Upper and Lower Peninsula.

**Description:** This perennial grass grows from 2.5 to 8 ft. tall in wet soils. It has wide, flat tapering blades that are rough on both sides and longitudinally striped. It has densely clustered single florets, green to purple in color changing to cream over time. Blooms May through mid-June.

**Reproduction:** Reed canary grass reproduces by seed and vegetatively through horizontal rhizomes.

**Problem for MDOT:** This Eurasian species out-competes most native wetland species and forms monocultures. This species impacts our wetland mitigation sites. Invasions are often prompted by disturbances such as ditch-digging or work within the edges of wetlands.

**Management Guidelines:** Herbicide spraying with a chemical approved for aquatic use.
Challenges

• Right of way issues.
• Linear nature of right of way.
• Different types/different approaches
  • fee
  • easement
  • permitted
• Funding/staffing.
• Offsite presence of invasives.
Clear Vision
Ditches
Other Structures
PHRAGMITES non-native type

- Obvious height issues and visibility 8-12-15-18 feet.
- Perennial grass.
- Mono-culture.
- Spreads very fast, rhizomes seeds.
- Deep root system.
Early Detection – Rapid Response

Difficult to see

Best control possible
Successful Control

September 2010

September 2012
## DEQ Recommendations

<table>
<thead>
<tr>
<th></th>
<th>Imazapyr</th>
<th>Glyphosate</th>
<th>Combination</th>
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<tbody>
<tr>
<td><strong>Treatment Timing</strong></td>
<td>Apply to actively growing green foliage after full leaf elongation and up to first killing frost (i.e., August up to first killing frost). If stand has substantial amount of old stem tissue, allow to regrow to approximately 5 feet tall before treatment</td>
<td>Apply after plants are in full bloom in late summer up to the first killing frost (i.e., late August up to first killing frost)</td>
<td>Apply after plants are in full bloom in late summer up to the first killing frost (i.e., late August up to first killing frost)</td>
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<tr>
<td><strong>Herbicide Rate</strong></td>
<td>High Volume: 4 to 6 pints per acre</td>
<td>6 pints per acre</td>
<td>3 pints glyphosate and 3 pints imazapyr per acre</td>
</tr>
<tr>
<td></td>
<td>Low Volume: 1 - 1.5% solution</td>
<td>1 - 1.5% solution</td>
<td>No recommended rate is available</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
</tr>
</tbody>
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| **Effectiveness**    | High
Acts slowly and can remain active in the soil during the following year or more | Medium
Good results with follow-up treatment or where water level management is available | High
Recommended for most dense Phragmites stands                                   |
| **Precautions**      | Non-selective and may persist actively in the soil for multiple years. Can move along roots and kill non-target species including nearby woody species. Not recommended for treatment in high quality areas with diverse native vegetation. | Non-selective and can kill non-target species when sprayed on foliage. May not be thoroughly transferred to roots in the first year and typically requires subsequent treatment. | Non-selective and may persist actively in the soil for multiple years. Can move along roots and kill non-target species including nearby woody species. Not recommended for treatment in high quality with diverse native vegetation. |
Japanese Knotweed Bamboo

- Obvious height issues and visibility.
- Mono-culture.
- Perennial.
- Spreads very fast, nodes, seeds and cuttings.
- Deep root system.
- Same concept: early detection/rapid response.
- Do not mow!
Control Option

- Milestone
- 14 ounces/100 gallons – Spot treatment (still cannot go more than 7 ounces/A- area is 50 percent or less of an acre).
- Escort XP – 1 ounce/A.
- Treatment after ~ July 1.
- Surfactant.
- Spray to wet.
- Do not treat when hot and dry.
Kochia

- Obvious height issues and visibility.
- Annual plant-reproduces by seed.
- Germinates by early-mid June.
- After it goes to seed... um?
- Will fill in bare spots: slide-offs, grub damage, guardrail, previous phragmites locations.
Kochia Control
Bare ground

- Esplanade 200 SC
  5 ounces/A
- Perspective
  8 ounces/A
- 50 GPA solution.
- Early spring application.
Kochia Control Options
Selective-Post Emergent Control

- Apply in June when plants are young.
- Perspective.
- Vista with MSO.
- E-2.
- Map areas for future treatment.
- Difficult treatment window for MDOT-special products and rates.
Resources

- [www.michigan.gov/invasives](http://www.michigan.gov/invasives)

Links to CISMAs webpages
Phragmites
  - Prioritization Tool
  - Control Guide
Grants
In closing...
QUIZ: How many safety violations do you see?
• No safety glasses
• Vests in poor condition
• No means of egress (greater than 4 feet deep)
• Poor sling
• Bucket tooth used for lifting
• No hard hat for worker under the equipment
• Undermining of pavement (with spoil pile too close)
• Outrigger not on stable ground
• Others?
Quiz: How many issues?

- T-shirts not ANSI 107 Class 2
- Life jackets?
- Bucket used as an aerial lift?
- Not wearing fall protection?
- Bridge railing too low
- Ladder not at proper angle (4 to 1)?
- Electrical cord on GFCI?
MDOT YouTube Safety Videos

- YouTube videos:
  - One Step From Death: Scott's Story
  - MDOT Personal Protective Equipment (Questionable Preconceptions)
  - Nighttime Work Zone Safety
  - How to Safely Regulate Traffic in Michigan
  - One Step From Death: Charlie’s Story
  - One Step From Death: Mark’s Story
National Work Zone Awareness Week

- Bob Kamps was struck by a motorist during pothole patching.
- We interviewed him and his wife Cyndi six years later to the day.

[https://www.youtube.com/watch?v=IbGG5K6KOdQ](https://www.youtube.com/watch?v=IbGG5K6KOdQ)
Questions?
Contact:

• Jim Gaus
• Occupational Safety Specialist
• 517-241-4188
• gausj@Michigan.gov

• Tim Jones
• Department Specialist
• 517-322-3316
• jonest30@Michigan.gov
Thank-you