

Minnesota Noxious Weed Risk Assessment

Developed by the Minnesota Noxious Weed Advisory Committee

Assessment information

Common name: Eastern poison ivy and western poison ivy. An additional common name for eastern poison ivy is common poison-ivy and an additional common name for western poison ivy is Rydberg’s poison-ivy.

Scientific name: *Toxicodendron radicans* (L.) Kuntze and *Toxicodendron rydbergii* (Small ex. Rydb.) Greene. Synonyms for *T. radicans* include *Rhus littoralis*, *Rhus radicans*, *Rhus toxicodendron*, *Toxicodendron negundo*. Synonyms for *T. rydbergii* include *Rhus radicans* var. *rydbergii*, *Rhus rydbergii*, *Rhus toxicodendron* var. *vulgaris*, *Toxicodendron desertorum*, *Toxicodendron longipes*. Many more synonyms are listed at USDA Forest Service (2025).

Family name: Anacardiaceae (sumac family)

Current reviewer name and organizational affiliation: Laura Van Riper, Minnesota Department of Natural Resources

Date of current review: September 2, 2025

Previous reviewer name and organizational affiliation: James Calkins, Minnehaha Creek Watershed District

Date of previous review: May 1, 2013

Species description

Photo



Photo caption: An eastern poison ivy leaf that has turned red in the fall. Photo credit: Steve Dewey, Utah State University, Bugwood.org.

Why the plant is being assessed

- Eastern and western poison ivy are currently regulated as “Specially Regulated” plants in Minnesota through the Minnesota Department of Agriculture’s noxious weed list.
- Eastern and western poison ivy are the only two native species on the noxious weed list.
- The Noxious Weed Advisory Committee identified eastern and western poison ivy as two plants on the noxious weed list that pose little threat to Minnesota’s ecology because they are native species.

Identification, biology, and life cycle

- Two species of poison ivy are native to Minnesota – eastern poison ivy (*Toxicodendron radicans*) and western poison ivy (*T. rydbergii*) (Minnesota Department of Natural Resources 2013). Several subspecies of eastern poison ivy have been named including *Toxicodendron radicans* subspecies *negundo* which is the subspecies found in Minnesota (Minnesota Department of Natural Resources 2013). Gillis (1971) and Nie et al. (2009) discusses the complicated systematics of the poison ivy and poison oak species.
- Poison ivy leaves have three leaflets with the terminal leaflet having a longer stalk than the stalks of the two side leaflets. This gives rise to the saying “leaves of three, let it be”. Minnesota Wildflowers (2025a and 2025b) has photos of plants and identification characteristics.
- Eastern poison ivy is a woody perennial shrub or vine. It is native across much of North America, including the Upper Midwest and Minnesota, east of the Rocky Mountains, and in Mexico and Central America.
- Western poison ivy is perennial and native to western, north central, and northeastern North America. It primarily grows as a woody shrub or groundcover.
- Eastern and western poison ivy occasionally hybridize (USDA Forest Service 2025).
- Both species of poison ivy are widely distributed and tolerate shade and a wide variety of soils relative to pH, moisture, fertility, and light levels (USDA Forest Service 2025).
- Both species spread by seeds when the fruits are eaten by wildlife and seeds pass through digestive system unharmed and are deposited in new areas (USDA Forest Service 2025).
- Both species can sprout from root crowns and rhizomes, although horizontal spread by rhizomes can be slow and spread by plant fragments is rare (USDA Forest Service 2025).
- Poison ivy is known for producing an oil that causes rashes in humans. The American Skin Association (2025) notes:
 - “About 85 percent of the population is allergic to poison ivy, poison sumac or poison oak, and about 10 to 15 percent are extremely allergic. This is the most common allergic reaction in the U.S., and affects as many as 50 million Americans each year.”
 - “The rash caused by these plants is called an allergic contact dermatitis. It is caused by a substance called urushiol (you-ROO-shee-ol) in the sap of the plants. Sticky, colorless and odorless urushiol is very easily spread - you don't need to actually touch the plant itself to come in contact with it. It can be carried on the fur of animals, on tools or sports equipment - just about anything that came into contact with the poisonous plant.”
 - “Urushiol causes redness and swelling followed by blisters and severe itching. The rash takes about two weeks to heal, provided infection with bacteria does not occur.”
- Most wild and domesticated animals seem to be unaffected by the oil and poison ivy plants and fruits are eaten without negative effect by a number of mammals and birds (see question 2A for more detail).

Current distribution

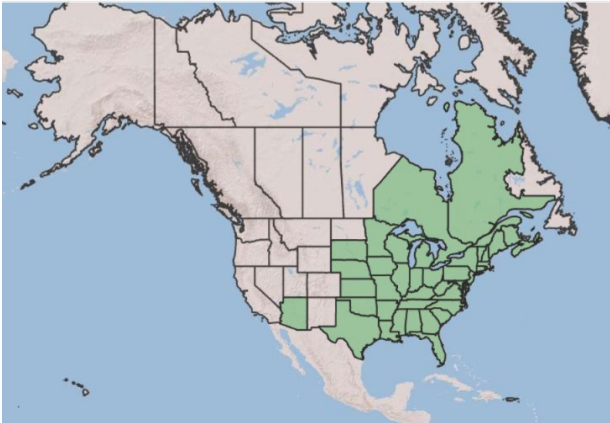


Image caption: National level map of eastern poison ivy from USDA Plants (2025a). Map accessed on 6 January 2025. Description of where the plant is found in the United States: Eastern poison ivy is found in the eastern United States, Great Plains states, and Texas and Arizona.

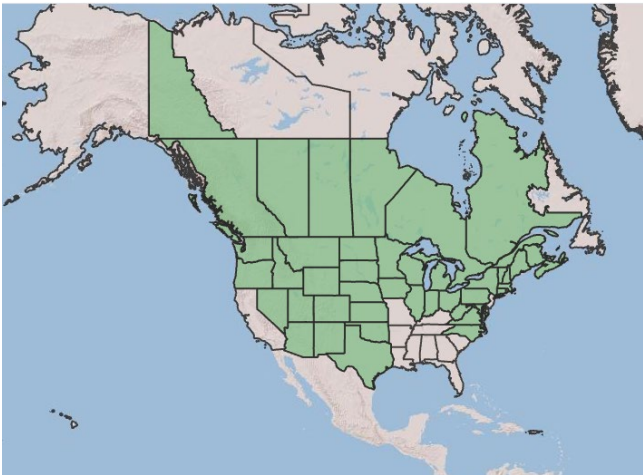


Image caption: National level map of western poison ivy from USDA Plants (2025b). Map accessed on 6 January 2025. Description of where the plant is found in the United States: Western poison ivy is found in most of the United States, except for California and some southeastern states.

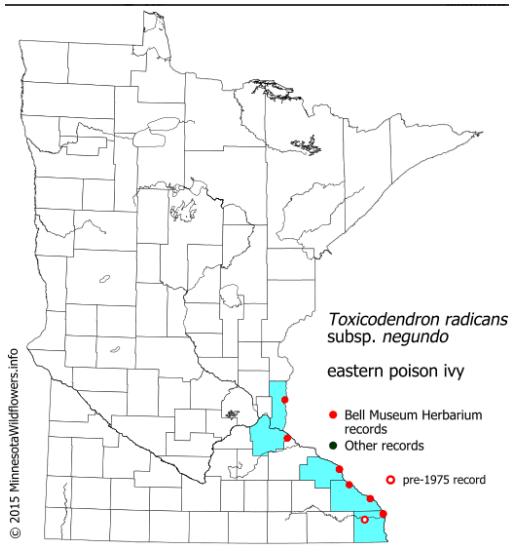


Image caption: State level map of eastern poison ivy from Minnesota Wildflowers (2025a). Map accessed on 6 January 2025. Description of where the plant is found in Minnesota: Eastern poison ivy is found in Washington, Dakota, Wabasha, Winona, and Houston counties.

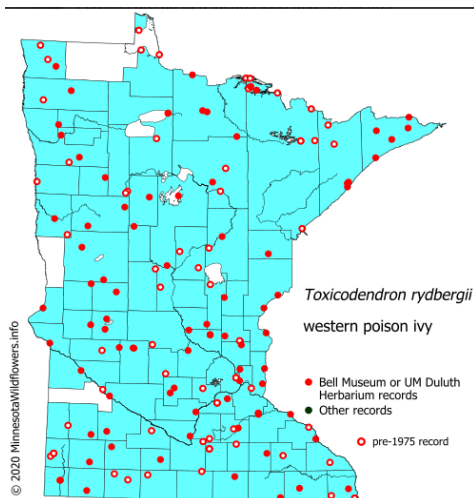


Image caption: State level map of western poison ivy from Minnesota Wildflowers (2025b). Map accessed on 6 January 2025. Description of where the plant is found in Minnesota: Western poison ivy is recorded in almost every county in Minnesota.

Current regulation

Eastern and western poison ivy are regulated in Minnesota as Specially Regulated Plants with the Special Regulation: “Must be eradicated or controlled for public safety along rights-of-ways, trails, public accesses, business properties open to the public or on parts of lands where public access for business or commerce is granted. Must also be eradicated or controlled along property borders when requested by adjoining landowners.”

Eastern and western poison ivy plants are not regulated by the federal government. There are federal guidelines requiring employers to provide respirators to staff if they must burn poison ivy (Center for Disease Control and Prevention 2022).

A review of state regulations compiled by the National Plant Board found no states regulating either poison ivy species (National Plant Board 2025).

USDA Plants (2025a) states that Missouri lists eastern poison ivy as a “nuisance”.

Risk assessment

Box 1:

Is the plant species or genotype non-native?

Answer: No.

Outcome: Go to Box 2.

Eastern and western poison ivy are both native to Minnesota (USDA Plants 2025a and 2025b, Minnesota Department of Natural Resources 2013, Minnesota Wildflowers 2025a and 2025b). See “Current Distribution” section for maps.

Box 2:

Does the species pose significant human or livestock concerns or have the potential to significantly harm agricultural production?

Question 2A: Does the plant have toxic qualities that pose a significant risk to livestock, wildlife, or people?

Answer: No.

Outcome: Go to Question 2B.

This question was answered “no” because while the poison ivy species can have human health impacts, the impacts are not significant enough to merit regulation. As a widespread native species in Minnesota, Minnesotans are educated in how to prevent exposure to poison ivy sap. There are a number of species that are native to Minnesota that can be considered nuisances or have potential negative impacts on human health, but it is likely that few, if any, rise to the level of needing to be regulated under the noxious weed law. The Noxious Weed Advisory Committee’s Listing Subcommittee recognizes that this level of “significance” of poison ivy can be subjective and that others may answer this question differently. The subcommittee supports the importance of education about poison ivy and how people can prevent being exposed to it.

Poison ivy does not pose a significant risk to livestock or wildlife and in fact is utilized by wildlife and can be utilized by livestock. Poison ivy has toxic qualities that can impact people. It is debatable as to whether it rises to the “significant” risk level. There are mitigation measures (such as learning to identify poison ivy and avoiding it, wearing clothing that covers the skin, etc.) that people can take to avoid exposure. As a widespread plant in Minnesota, education around poison ivy is a part of interacting with the environment and maxims like “leaves of three, let it be” are well known.

Poison ivy contains the chemical compound urushiol which causes an itchy rash in about 85% of the human population. The American Skin Association (2025) notes:

- “About 85 percent of the population is allergic to poison ivy, poison sumac or poison oak, and about 10 to 15 percent are extremely allergic. This is the most common allergic reaction in the U.S. and affects as many as 50 million Americans each year.”
- “The rash caused by these plants is called an allergic contact dermatitis. It is caused by a substance called urushiol (you-ROO-shee-ol) in the sap of the plants. Sticky, colorless and odorless urushiol is very easily spread - you don't need to actually touch the plant itself to come in contact with it. It can be carried on the fur of animals, on tools or sports equipment - just about anything that came into contact with the poisonous plant.”
- “Urushiol causes redness and swelling followed by blisters and severe itching. The rash takes about two weeks to heal, provided infection with bacteria does not occur.”

The poison ivy species are utilized by wildlife. White-tailed deer and rabbits eat poison ivy species (Gillis 1971, Nelson et al. 1988, Mohan et al 2008). A study of crows in Pennsylvania found crows eat *Toxicodendron radicans* seeds (Annala et al. 2012). Meanly (1956) documented *Toxicodendron radicans* fruit being eaten by turkeys in Arkansas. Roberts and Arner (1984) documented *Toxicodendron radicans* being eaten by beaver in Mississippi. Swenk and Selko (1938) documented *Toxicodendron radicans* being eaten by sharp-tailed grouse in Nebraska. The USDA Forest Service (2025) notes: “At least 75 species of birds, particularly gallinaceous birds such as wild turkeys, northern bobwhites, ruffed grouse, and sharp-tailed grouse, eat the fruits and seeds of poison-ivies. Many mammals—including bears, mule deer, white-tailed deer, moose, foxes, woodchucks, muskrats, rabbits, squirrels, woodrats, and mice—consume the leaves, stems, and fruits of poison-ivies” and that “poison-ivy fruits may be particularly important during winter or during poor mast years when other fruits are unavailable”.

Livestock are also able to feed on poison ivies. The USDA Forest Service (2025) notes: “Poison-ivies can be partially controlled by livestock browsing, particularly by domestic goats and cattle, but there is often a resurgence of growth after browsing stops”.

The skin of dogs is less sensitive to urushiol than the skin of people and dog fur provides a layer of protection from the urushiol contacting their skin (American Kennel Club 2024). If urushiol does touch their skin they can have reactions (American Kennel Club 2024). Additionally, the urushiol on a dog’s coat could be transferred to people if they touch the dog’s fur (American Kennel Club 2024).

Question 2B: Does the plant cause significant financial losses associated with decreased yields, reduced quality, or increased production costs?

Answer: No.

Outcome: This species is not believed to be a risk

No information was found indicating that either poison ivy species causes financial losses. Medical expenses or lost work time due to large poison ivy skin exposure is a possible financial loss. No data was found documenting these amounts.

The outcome of this question results in not regulating the poison ivy species through the noxious weed law. If counties or other government units find that they need to regulate poison ivy, they could use local ordinances or county regulations to address concerns.

Box 3:

Is the species, or a related species, documented as being a problem elsewhere?

Outcome: Decision tree does not direct to this question.

Box 4:**Are the species' life history and growth requirements understood?**

Outcome: Decision tree does not direct to this question.

Box 5:**Gather and evaluate further information**

Outcome: Decision tree does not direct to this question.

Box 6:**Does the species have the capacity to establish and survive in Minnesota?**

Question 6A: Is the plant, or a close relative, currently established in Minnesota?

Outcome: Decision tree does not direct to this question.

Question 6B: Has the plant become established in areas having a climate and growing conditions similar to those found in Minnesota?

Outcome: Decision tree does not direct to this question.

Question 6C: Has the plant become established in areas having a climate and growing conditions similar to those projected to be present in Minnesota under future climate projections?

Outcome: Decision tree does not direct to this question.

Box 7:**Does the species have the potential to reproduce and spread in Minnesota?**

Question 7A: Are there cultivars of the plant that are known to differ in reproductive properties from the species?

Outcome: Decision tree does not direct to this question.

Question 7B: Does the plant reproduce by asexual/vegetative means?

Outcome: Decision tree does not direct to this question.

Question 7C: Are the asexual propagules - vegetative parts having the capacity to develop into new plants - effectively dispersed to new areas?

Outcome: Decision tree does not direct to this question.

Question 7D: Does the plant produce large amounts of viable, cold hardy seeds? For woody species, document the average age the species produces viable seed.

Outcome: Decision tree does not direct to this question.

Question 7E: For species that produce low numbers of viable seeds, do they have a high level of seed/seedling vigor or remain viable for an extended period (seed bank)?

Outcome: Decision tree does not direct to this question.

Question 7F: Is the plant self-fertile?

Outcome: Decision tree does not direct to this question.

Question 7G: Are sexual propagules – viable seeds – effectively dispersed to new areas? List and consider all vectors.

Outcome: Decision tree does not direct to this question.

Question 7H: Can the species hybridize with native species (or other introduced species) and produce viable seed and fertile offspring in the absence of human intervention?

Outcome: Decision tree does not direct to this question.

Question 7I: Are there natural controls (species native to Minnesota) which have been documented to effectively prevent the spread of the species in question?

Outcome: Decision tree does not direct to this question.

Question 7J: Was the answer to Question 7A (Are there cultivars that differ in reproductive properties from the original species) “Yes”?

Outcome: Decision tree does not direct to this question.

Box 8:

Does the species pose significant human or livestock concerns or have the potential to significantly harm agricultural production, native ecosystems, or managed landscapes?

Question 8A: Does the plant have toxic qualities, or other detrimental qualities, that pose a significant risk to livestock, wildlife, or people?

Outcome: Decision tree does not direct to this question.

Question 8B: Does, or could, the plant cause significant financial losses associated with decreased yields, reduced crop quality, or increased production costs?

Outcome: Decision tree does not direct to this question.

Question 8C: Can the plant aggressively displace native species through competition (including allelopathic effects)?

Outcome: Decision tree does not direct to this question.

Question 8D: Can the plant hybridize with native species resulting in a modified gene pool and potentially negative impacts on native populations?

Outcome: Decision tree does not direct to this question.

Question 8E: Does the plant have the potential to change native ecosystems (adds a vegetative layer, affects ground or surface water levels, etc.)?

Outcome: Decision tree does not direct to this question.

Question 8F: Does the plant have the potential to introduce or harbor another pest or serve as an alternate host?

Outcome: Decision tree does not direct to this question.

Box 9:

Does the species have clearly defined benefits that outweigh associated negative impacts?

Question 9A: Is the plant currently being used or produced and/or sold in Minnesota or native to Minnesota?

Answer: Yes (native to Minnesota). ***This information is supplemental and is not part of the flow chart pathway for this risk assessment.***

Eastern and western poison ivy are both native to Minnesota. Neither species is known to be commercially grown. James Calkins, regulatory affairs manager for the Minnesota Nursery and Landscape Association (personal communication 2025), shared this feedback: “Although the poison ivies have multiple characteristics that would make them valuable landscape plants, including climatic adaptability, lush glossy foliage, soil stabilization, wildlife value, and striking gold to scarlet fall color, and have a surprising but limited history of intentional landscape use based on these characteristics, poison ivies are not grown commercially or sold as landscape plants in Minnesota and elsewhere because the plants produce urushiol, a resinous compound that causes a nasty, itchy rash for most people.” He also noted that “The monetary value of plants to the Minnesota economy is one of the factors considered when determining if plant species should be listed as noxious weeds in Minnesota but is not a factor for poison ivies since the production and sale of poison ivy plants does not contribute to the Minnesota economy.”

Question 9B: Is the plant an introduced species and can its spread be effectively and easily prevented or controlled, or its negative impacts minimized, through carefully designed and executed management practices?

Answer: No. ***This information is supplemental and is not part of the flow chart pathway for this risk assessment.***

The plant is a native species.

Question 9C: Is the plant native to Minnesota?

Answer: Yes. ***This information is supplemental and is not part of the flow chart pathway for this risk assessment.***

Eastern and western poison ivy are both native to Minnesota.

Question 9D: Is a non-invasive, alternative plant material or cultivar commercially available that could serve the same purpose as the plant of concern?

Outcome: Decision tree does not direct to this question.

Question 9E: Does the plant benefit Minnesota to a greater extent than the negative impacts identified at Box #8?

Answer: Yes. ***This information is supplemental and is not part of the flow chart pathway for this risk assessment.***

Eastern and western poison ivy are both native to Minnesota and are important parts of Minnesota ecosystems. They serve functions such as providing a food source to birds and mammals (see Question 2A). Since they are

widespread native plants, there are educational messages such as “leaves of three, leave it be” to help people learn to avoid touching poison ivy.

Box 10:

Should the species be regulated as Prohibited/Eradicate, Prohibited/Control, or Restricted Noxious Weed?

Question 10A: Is the plant currently established in Minnesota?

Outcome: Decision tree does not direct to this question.

Question 10B: Would prohibiting this species in trade prevent the likelihood of introduction and/or establishment?

Outcome: Decision tree does not direct to this question.

Question 10C: Does this risk assessment support this species being a top priority for statewide eradication if found in the state?

Outcome: Decision tree does not direct to this question.

Question 10D: Does the plant pose a serious human health threat?

Outcome: Decision tree does not direct to this question.

Question 10E: Is the health threat posed by the plant serious enough, and is the plant distribution sufficiently small enough to be manageable, and are management tools available and effective enough to justify listing as Prohibited / Eradicate species?

Outcome: Decision tree does not direct to this question.

Question 10F: Is the plant known to cause significant ecological or economic harm and can the plant be reliably eradicated (entire plant) on a statewide basis using existing practices and available resources considering the distribution, reproductive biology and potential for spread?

- *For distribution, note if the distribution is well documented, the number and acreage of known infestations and how widespread they are in the state. Note if there are infestations in border areas.*
- *For reproductive biology, note if there are reproductive biology factors that make the plant easier to control and eradication more likely (for example, long pre-reproductive period, self-incompatible pollination, short-lived seed bank).*
- *For potential for spread and re-invasion of controlled areas, note its potential to spread beyond places where it is being controlled such as deliberate planting by people, wildlife vectors, re-infestation from border states, or other factors that facilitate spread.*
- *For known management tools, note what management tools are available, potential non-target impacts, and the reasonableness of state management or mandating that landowners throughout the state use the management tools to eradicate or control existing plants.*

- *For available resources, consider the capacity of state and local personnel and availability of funding to respond to new and existing infestations.*

Outcome: Decision tree does not direct to this question.

Question 10G: Is the plant known to cause significant ecological or economic harm and can the plant be reliably controlled to limit spread on a statewide basis using existing practices and available resources? Would the economic impacts or other hardships incurred in implementing control measures be reasonable considering any ongoing or potential future increase of ecological or economic harm?

- *Also consider all bullet points listed under 10F when evaluating 10G*

Outcome: Decision tree does not direct to this question.

Question 10H: Would prohibiting this species in trade have any significant or measurable impact to limit or reduce the existing populations or future spread of the species in Minnesota?

Outcome: Decision tree does not direct to this question.

Question 10I: Are there any other measures that could be put in place as Special Regulations which could mitigate the impact of the species within Minnesota?

Outcome: Decision tree does not direct to this question.

Box 11:

The species is being proposed to be designated as a Specially Regulated Plant. What are the specific regulations proposed?

This information is supplemental and is not part of the flow chart pathway for this risk assessment.

Answer: The information below was added to give alternatives to be explored if the Noxious Weed Advisory Committee wants to continue regulating the poison ivy species as Specially Regulated Plants.

The current regulation (as of 2025) is: “Must be eradicated or controlled for public safety along rights-of-ways, trails, public accesses, business properties open to the public or on parts of lands where public access for business or commerce is granted. Must also be eradicated or controlled along property borders when requested by adjoining landowners.” Anecdotally, it seems that in most cases where poison ivy is controlled, it is because landowners want to control it to prevent human health impacts, not that they have been instructed by county agricultural inspectors to control it due to its status as a Specially Regulated Plant.

The current regulatory language may be over-reaching as the poison ivy species are native and widespread in Minnesota and are an expected part of native landscapes, including along trails or rights-of-ways. Examples of more narrowly scoped special regulations could be:

- “Must be eradicated or controlled for public safety along accesses to business properties open to the public or on parts of lands where public access for business or commerce is granted.”
- and/or
- “In residential areas, must be controlled along property borders when requested by adjoining landowners.”

There are resources on how to manage poison ivy. For example, University of Minnesota Extension (2025) recommends hand pulling (wearing skin protection), cutting over multiple years, and chemical control. They also note that poison ivy should not be burned. For chemical control, they recommend a combination of the selective broadleaf herbicides including 2,4-D, 2,4-DP, MCPP, MCPA, dicamba and triclopyr. They also note that the non-selective herbicides glyphosate and glufosinate ammonium can also be used. They note that repeat applications will likely be necessary to kill the plant.

Examples of additional resources on all types of management are from the USDA Forest Service (2025) and Clemson University (2022). For example, Clemson University (2022) provides more detail on pulling and cutting stating: “For light infestations, dig up small plants. You can also repeatedly cut back the plants to ground level. Eventually they starve to death. Start cutting early in the spring, about the time leaves unfold. When new growth appears, cut again. Inspect the plants every week or two. Whenever you see green growth, cut the shoots back to the ground.”

Final outcomes of risk assessment (2025)

NWAC Listing Subcommittee

Outcome: Do not list.

Comments: The poison ivy species are native to Minnesota. Most people who are managing poison ivy are doing it for their own reasons, not because they are receiving citations through the county agricultural inspector. We expect that landowners (be they public or private) will continue to manage poison ivy as needed for their use of the land and access of customers. The Noxious Weed Advisory Committee identified the poison ivy species as low threats to Minnesota. Removing the poison ivy species from the noxious weed list acknowledges that they are native species and part of Minnesota’s landscape. Additionally, removing the poison ivy species reduces the length of the noxious weed list and allows time and effort to be focused on higher priority species. Outdoor focused organizations will likely continue education on poison ivy regardless of whether it is regulated or not. For example, the Minnesota Department of Natural Resources and the Minnesota Department of Transportation have staff safety trainings that teach how to avoid impacts from poison ivy.

NWAC Full Committee

Outcome: Do not list

Comments: The vote on 12/16/25 was 19 to 0 in favor of the recommendation.

MDA Commissioner

Outcome: Do not list

Comments: No comments

Final outcomes of risk assessment (2013)

NWAC Listing Subcommittee

Outcome: List as a Specially Regulated Plant and continuing the existing management plan.

Comments: Native and valuable in native ecosystems; erosion control and wildlife food plant (leaves, stems, and fruits).

NWAC Full Committee

Outcome: Specially Regulated Plant

Comments: Voted 13 – 0 to remain as a Specially Regulated Plant continuing the existing management plan

MDA Commissioner

Outcome: Specially Regulated Plant

Comments: Accepted NWAC's Recommendation to remain as a Specially Regulated Plant and to continue implementing the existing management plan.

Risk Assessment Current Summary (06-30-2025)

- Eastern poison ivy (*Toxicodendron radicans*) and western poison ivy (*T. rydbergii*) are native to Minnesota and provide food and habitat for a variety of native species.
- Both species of poison ivy contain the chemical compound urushiol which causes an itchy rash in about 85% of the human population. Poison ivy is a well-known human health issue for people who spend time outdoors and maxims like “leaves of three, let it be” and guidance such as covering the skin are well-known ways to prevent poison ivy exposure. Outdoor-focused organizations will continue to educate on poison ivy regardless of its noxious weed status.
- The poison ivy species are currently listed as “Specially Regulated Plants”. As a native species it may be appropriate to de-list the species and have poison ivy control continue as needed due to the needs and goals of the landowners. If the species are not de-listed, the wording in the “Special Regulation” should be updated to be clearer and to narrow the scope of required control to minimize the impact to human health.

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