

Tree Injury Report Form – Instructions

These instructions explain use of the Tree Injury Report Form. This form may also be used to report potential herbicide injury to other woody and herbaceous plants.

PLEASE NOTE: Monitor/witness information is for data verification ONLY and will remain private. While tree health information will be shared publicly, all personal information and detailed site location information will NOT publicly visible.

It is preferred that you scan and email a copy of your completed form(s) and photos to: monitoring@prairierivers.org

Photos must be emailed however, you may also mail a hard copy of the form (keep one for your records) to:
Monitoring - Attn: Kim Erndt-Pitcher
Prairie Rivers Network
1605 S. State St., Suite 1
Champaign, IL 61820

The Form is one sheet and two pages (front and back). Under most circumstances, an entire observation can be made using Page 1. Page 2 contains opportunities for alternative information or expanded data collection. It also includes some helpful reminders regarding data categories. More than one Form can be used if there is a need. Be as complete as time, equipment, and experience allow. Take photos where possible to document observations. Instructions for photos are included on page 5.

Items marked* = complete only once per site visit

Items marked** = complete only once per site

Observer and Location Information

Sheet__of__: Identify each datasheet used for this date and site (e.g., 1 of 1). If two sheets are used, entries would be: 1 of 2 and 2 of 2 for the first and second sheets respectively.

First Name & Last Name: Data are for the person responsible for the observation. Use a consistent name for all sheets you submit.

Address*, City*, Zip*, County, Phone Number*, E-mail*:** Complete for first sheet submitted. Optional thereafter.

Date: Preferred format is mm/dd/yy.

Witness Name (optional): If another individual was present and will vouch for the observation, record their name. More than one name may be submitted.

Site ID: Use an appropriate name (e.g., Prairie of the Rock Nature Preserve). Use exact same name for subsequent observations, at the same site, if any.

Subunit: (optional) For large sites, several areas may be monitored. Some advance planning and consultation in designating subunits may be needed in such cases. An observation form will be needed for each subunit in such cases.

County:** Self explanatory

Initial Visit Planned?: Check “yes” if data collection at this site was planned before knowledge of whether injury symptoms were (or were not) present. Check “no” otherwise.**

Visit #: Number serially (1, 2, 3 etc.) Some intensively studied sites will be visited more than once. This is an optional level of observation intensity. Sites with a single visit documenting damage are valuable

GPS Point:** This is the preferred location information. GPS coordinates can be found in Google Earth and recorded on Page 1 at a later time if GPS is not available in the field. Decimal Degrees is the preferred format.

[] Check the box and see Page 2 of the form if GPS coordinates are not used.**

Species and Injury Observed

If indicative **Symptoms** are not present (see list below), simply follow the directions for **Species** and record the Injury Level as zero (0) in that section.

Species: Use the scientific name if known. Common names are acceptable. For closely related species which are difficult to distinguish, it is acceptable to merely provide the scientific name of the group (e.g., Fraxinus, Carya, Acer) or the common name of the group (Ash, Hickory, Maple).

Approximate number observed: Approximate number of trees impacted

% Foliage Affected: Rate the percentage of foliage affected into one approximate category;

- 1) 1-25%,
- 2) 25-50%,
- 3) 50-75%,
- 4) 75-100%

Average Injury Level: If injury is present, estimate the average level from 0-10 followed by the range (lowest to highest level) of injury observed on different trees of the same species. Place the range in parentheses behind the average. For example, if the estimates of average injury level for white oak is “4” with some trees at “0” and some at level “6”, the entry would look like 4 (0-6). If all white oak look pretty much the same, the entry would look like 4 (4-4). It is optional to rate the range of the injury level. If range is not rated the entry should look like 4 (-). This measure is relatively subjective. Do the best you can. Consult reference materials for guidance. If there are no Indicative Symptoms present, simply rate the injury level as “0” for the species. Use the following “injury” scale:

0 = none observed

1-2 = slight

3-4 = light

5-6 = moderate

7-8 = severe

9-10 = extreme Reserve “10” for trees which leafed out and died or appear to be dying

Injury Symptoms to Record

For any positive finding, at least one indicative **Symptom** must be present. Record the most prominent **Symptom(s)**. This will typically be just a small number (1-3) for any one species and observation. Put an “**X**” in appropriate box if present. For death, dieback, and 2nd growth write in last box.

Indicative Symptoms

LEAF SYMPTOMS

Curled/Cupped (Curling of leaf margins or cupping of entire leaf; leaf edges may bend up or down, or in more severe cases the entire whole leaf is curled up or more commonly downward, the latter creating a “boxing-glove” like look in oaks; both may be accompanied by discoloration at the margin (e.g., yellowish or grayish). As injury intensifies edges may turn brown or black; in either case the color change may also be noted as a symptom (see Chlorosis and Necrosis description below))

Epinasty (Sideways/UpSide Down) (twisting of leaf petioles orienting leaves sideways or upside down, relatively easy to spot when lower leaf surfaces are colored differently than the upper surface)

Strapped (leaf blade is unnaturally lengthened or “stretched” in relation to width; can be accompanied by twisting of the blade surface; it is not necessary to record twisting with strapping)

Tattered (especially for oaks and maples: blade tissue is undeveloped (missing) at leaf margin between veins, sometimes severely; less severe cases may show large irregular holes in the blade (e.g., maple))

Twisted and/or Deformed (more or less normally proportioned leaf blade is twisted, has an irregular surface, and/or is irregularly lobed)

Irregular Margins (abnormal wavy or “crinkled” or “scallop shell like” margin (e.g., in redbud or dogwood); or veins at margins may protrude as distinctive points (e.g., in wild grape))

Veins Bleached and/or Parallel (veins and immediately surrounding tissue are yellowed, while tissue between veins remains green; can be accompanied by parallel leaf venation in normally net-veined leaves due to distorted leaf growth)

SHOOT SYMPTOMS

Elongated, coiled or bent (pronounced shoot elongation with bending or coiling, typically only seen in spring in developing shoots; often accompanied by leaf abnormalities)

Deformed and growth suppressed (overall suppression of shoot elongation and stunting of leaf growth; generally leaves will show one or more symptoms such as chlorosis (e.g., box elder) or twisting and deformation (oak)).

Additional Symptoms

[symptoms which may be recorded if Indicative Symptoms are found]

The following symptoms may be recorded if they accompany those listed above:

LEAF SYMPTOMS

Chlorotic (abnormal light green, yellow, gray, or white coloration. Many newly emerging leaves are these colors, or orange or red before turning deeper green. Unless experienced, rate chlorosis only on mature or near mature leaves; may be at edges or entire leaf)

Necrotic (brown or black tissue indicating tissue death, usually developing at leaf edge and proceeding inward).

Second Growth (especially for oaks); if there is obvious leaf damage, check to see whether there is new leaf growth at twig end that appears to have emerged after the 1st spring growth. Please take photo if present.

TREE SYMPTOMS

Death (refers to whole tree death; rate only for trees which clearly leafed out in the current growing season and then died; observe leaves for any remaining potential injury symptoms)

Dieback (refers to branches dying usually from ends inward, in severe cases whole limbs may die-back; as for death, rate as present only if the dead portion clearly leafed out in the current growing season and then died; otherwise die-back may indicate damage from previous growing season(s)).

Epicormic branching (occurs when twig growth (sometimes dense) occurs on larger branches or main trunks, often seen when dieback of branches is occurring; may also indicate damage from previous growing season(s)).

Notes: List other things you observe that are noteworthy: Eg. injured herbaceous plants, and know sensitive species not affected, insect damage, disease, etc.

Layers: Indicate the layers of the habitat where damage is observed with a check. If a particular layer is absent, such as the Understory and Ground Layer might be in a cemetery, strikethrough (cross out) those layers on the form. Estimate heights below. Layers to examine are:

Overstory: larger trees > 30 feet in height

Understory: smaller trees 10-30 feet in height

Ground Layer: saplings, seedlings, and other plants < 10 feet in height

Regularly mowed areas are considered lacking a ground layer. If present, flower beds and shrubbery constitute a ground layer in lawns.

Geographic Extent of Observation**

Linear: Refers to long narrow stretches of habitat best measured in length. Examples are fencerows and edges of woodlands along a roadside where interior conditions were not observed. Provide an estimate of length of injured area and indicate unit (feet or miles).

Small: Refers to small areas (generally an acre or less) where injury is best described in terms of number of injured trees. Estimate the number of trees affected of all species here.

Large: Refers to larger areas (generally an acre or more) where injury is best described in terms of area of injured trees. Because large areas may not be fully covered, record the area of injury as your estimate of the area in which you actually observed damage. This recognizes injury may (or may not) extend to a larger adjacent unobserved area. Estimate the number of acres affected.

OPTIONAL: Injury Pattern and Land Use Information (Page 2 of form)

In some cases, the pattern of injury may suggest causes of the injury. The most common situation would be encountering a gradient of damage from more severe injury at the edge of an area to less severe injury toward the interior of an area. In such cases it may be useful to note this pattern and describe the adjoining land use(s) especially adjacent the more severely damaged edge(s). For example, one might note “damage is most severe at the west edge of the stand” to describe a gradient and then note: “field planted to corn is adjacent west edge of stand” to describe observed land use.

Photos

Documenting leaf injury photographically is highly recommended. A) For your own later reference, take an initial photo that identifies the site where subsequent (close-up) injury photos are taken. A photo of a sign, or landmark, or site name and date written on a paper will work.

B) Take a close-up photo of typical injury symptom(s) for each species with documented damage on the form. A check box is provided on the form as a reminder. Leaves may be photographed on the tree or removed and placed on a (preferably) plain background. Avoid photos in direct sunlight with overly bright backgrounds. A small group of leaves should be pictured. A picture of part of a canopy can sometimes be instructive also. Pole pruners, ladders or other means to retrieve leaves for photos may be needed. Telephoto lens capability may be needed for leaves still on trees.

Managing photo records is daunting without a consistent naming convention. Four elements are needed. Use the following rule: Site-Species-Date-Photo#. Use an underline for spaces between words of the same element and a dash between elements. For example, the first photo of Black Oak at Revis Hill Prairie Nature Preserve on April 21, 2018 would look like: Revis_Hill_Prairie_NP-Black_Oak-2018_04_21_1. Note that the data format is year-month-day. Use leading zeros for all single digit entries in date. This is so serial observations of the same species at a site will sort on date in chronological order. Generally only one or two photos per species per visit are needed. Bark photos for species identification in the case of severely damaged leaves may be added. Use the same naming convention for these.

Note: It may be helpful to write the site, species, and date on an index card and take a photo of the card before you take your injury photos. This will help you separate photos from one site to another and reduce risk of error.