Tree Injury Report Form – Instructions

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

PLEASE NOTE: Monitor/witness information is for data verification ONLY and will remain private.

Photographic documentation is required. A Gmail or Google Account is required for using the online reporting method. This is the preferred method of reporting. You can access the online report form at www.prairierivers.org/report **. This can be done at home on a computer.** ***If online reporting is not possible you can scan and email a copy of your completed form(s) and photos to: monitoring@prairierivers.org***

The Form is one sheet and two pages (front and back). It includes helpful reminders regarding data categories. More than one Form can be used if there is a need. Please take photos to document observations. **Instructions for photos are included on page 5.**

Observer and Location Information

Date: Preferred format is mm/dd/yy.

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, Phone Number, E-mail: Complete for first sheet submitted. Optional thereafter.

Witness Name (optional): List any other individual present that will vouch for the observation.

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, one or more subareas 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: List county of the site you are monitoring.

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.) We encourage you to visit sites multiple times. However, sites with a single visit documenting damage are also valuable.

GPS Point: GPS coordinates can be found in a map in the online reporting form or 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.**

GPS Point in Relation to Sample Area: Describe where the recorded GS point is with regard to the sample area (e.g., "GPS point is in middle of sample area", or "GPS point is at NW corner of monitored area").

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: Common names are acceptable. Please provide scientific name if possible. 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 - 25%
26 - 50%
51 - 75%
76 - 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). I

If all white oak look pretty much the same, the entry would look like 4 (4-4). 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.

LEAF SYMPTOMS

Indicative Symptoms

Curled/Cupped - Curling of leaf margins or cupping of entire leaf; leaf edges many 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" appearance in oaks.

Sideways/Upside Down (Epinasty) - 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.

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).

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, Deformed and/or Stunted - More of less normally proportioned leaf blade is twisted, has an irregular surface, and/or is irregularly lobed, or stunted.

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
Epicormic branching: Twig growth (usually 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).
Dieback: 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).
Death: 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.

Notes: Any additional notes. (e.g., treatment of edge/root-zone issues, other affected species, known sensitive species NOT affected, insect/drought damage, 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 or grazed areas are considered lacking a ground layer. If present, flower beds and shrubbery constitute a ground layer in lawns.

Geographic Extent of Observed Injury

There are three classifications of geography of monitored sites. Compete only the one that best describes the monitored site. Remember to avoid "edge" and other sites (e.g., turfs with broadleaf weed treatments (grass only-no clover, chickweed, etc.), total weed management areas around trees) where plants may be exposed through root zone uptake of herbicides. Only include such areas when root zone effects have been eliminated. In this case, document in Notes why root zone effects were eliminated from consideration. Appropriate verifications include 1) verified no herbicide

applications with land manager, 2) turf shows healthy broadleaf populations, 3) edge injury is continuous with injury observed beyond edge).

Large: Estimate only 1) the area you monitored, and 2) the area in which you observed injury. For example, if you monitor 10 acres of a 40-acre Nature Preserve with symptoms observed throughout the 10 acres, both items "1)" and "2)" would be filled as "10". If only 5 acres show injury items "1)" and "2)" would be "10 and 5" respectively. Area without any injury will have "0" form "2)."

Small: Refers to small areas (generally an acre of less). Estimate the number of trees affected of all species here.

Linear: Refers to long narrow stretches of habitat best measured in length. Examples: 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).

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).

Photos

Documenting leaf injury photographically is required and a requirement for entering data online. 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 plain background. Avoid photos in direct sunlight with overly bright backgrounds. 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. You may upload up to 3 photos of each species you document.

Managing photo records is daunting without a consistent naming convention. Four elements are needed. **Use the following rule for naming photos: 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_04_21_2018. Note that the data format is month-day-year. 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 damage 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.