PLANTS OF CONCERN: GUIDELINES FOR LEVEL 1 MONITORING FORM, 2010

These guidelines will help you answer some questions you may have about the form. **Please read the entire guideline sheet carefully.**

GENERAL INFORMATION

Confidentiality Form: Due to sensitivity of rare plant location information and increased number of monitors, we are asking all monitors to sign this form (once only) ensuring the confidentiality of plant locations.

Monitors fill out the Monitoring Form. Monitors are responsible for completing the Monitoring Form; Land Managers or Site Stewards will complete the Land Management form. Both forms are available for download from our website. See last page for submission instructions.
In advance of monitoring, monitors should log-in to the POC website for their assignments and to print out the most recent reports for field reference. Starting in 2007, aerial maps were made for most subpopulations using Google Earth. If a map was made for the subpopulation you are monitoring, you will see 'View Aerial Map' as one of your choices in the Monitoring Forms section. You can view this map and print it from your browser.
Alternatively, contact POC for assignment information, forms and copies of former reports and maps.

IN THE FIELD

Items you will need in the field:

- Most recent monitoring report with any available maps
- Blank Monitoring Form for **each** subpopulation!!
- Clipboard and pencils
- Compass
- 50m tape
- Flags and/or flagging
- GPS unit: GPS readings are **required** for new subpopulations, those without a previous GPS reading, those that have increased in size, or annual species. We encourage you to take GPS readings for **all** subpopulations every 2-3 years to improve accuracy of our records.
- **Permits:** required for Nature Preserves and many publicly owned sites (see Permits section).

Some of these materials may be borrowed from Plants of Concern or one of the Forest Preserve Districts (see page 29). If you have a digital camera, you are encouraged to take a close-up photo of your plant and a full plant view, and send it to POC via email to post on the website.

Trampling: The more times you visit, the more you impact the population. Although minimal trampling should not harm most populations, we suggest some simple guidelines to minimize impact. When returning to a population, take a different route when you are off an authorized trail so as not to create a new trail. If you visit the site with others, when off trail, each should take a slightly different access to the population, rather than walking in a line. Try to remain as still as possible when collecting data, moving carefully among the plants when you need to.

Preventing the spread of invasives: Before leaving or entering a site, check shoes, clothing, and bags for any seeds that might be 'hitch-hiking' and remove them. Even on site take care not to move invasives from place to place. This precaution can help stem the spread of invasive plants.

SAFETY

Items strongly recommended for safety reasons (and never go into the field alone.)

- Cell phone
- Plenty of water
- Hat, long pants, sturdy shoes or boots
- Sunscreen
- Insect repellent
- Pre-ivy

In Case of an Emergency:

We urge all of our volunteers to use common sense and judgment for their own personal safety. Remind those you are with to keep safety in mind, and report potentially unsafe conditions or practices to avoid accidents and injuries.

CBG: Report all accidents, injuries, or emergencies to security personnel. Dial extension 8321 from a Garden telephone, used only to summon emergency help from within the Garden. Security can also be contacted by radio from the information desk, toll booth, or tram. Security personnel receive first-aid and CPR training and have first-aid supplies. For emergency assistance from outside the Garden (or from a cell phone), dial 911. Be prepared to provide your name and exact location within the Garden and to describe the nature of the emergency and the type of assistance required.

DuPage: FOR A MEDICAL EMERGENCY: 911. For a non-medical emergency, call FPD Law Enforcement 630-933-7240. For non-emergency law enforcement dial 630-933-7230. Please see contacts page for information on whom to notify of an accident or injury.

Illinois Beach State Park (IBSP): FOR IMMEDIATE EMERGENCY: 911.

Kane County: FOR IMMEDIATE EMERGENCY: 911. If the volunteer states that they are in a forest preserve, the 911 dispatch will send the forest preserve police along with the ambulance or whatever else is required.

Lake County: FOR IMMEDIATE EMERGENCY: 911. Give dispatcher name of preserve and 2 streets at intersection nearest entrance. NON-EMERGENCY: 847-549-5200. Emergency Services and Disaster Agency: 847-680-7735.

Midewin: If you are a Midewin volunteer, you will be given Emergency and Safety guidelines, which you are expected to sign at your first visit.

McHenry County: FOR IMMEDIATE EMERGENCY: 911. Give dispatcher name of preserve and 2 streets at intersection nearest entrance. NON-EMERGENCY: During the week, contact District Police: 815-338-6223. Over the weekend, contact the Sheriff: 815-338-2144.

Will County: FOR IMMEDIATE EMERGENCY: 911. For any other emergency call the following Forest Preserve District Officers: MPO David Barrios (days) 815-546-4600, Sgt. Reggie McCrary (afternoons) 815-790-7223, Sgt. Jon Mead (days, weekends) 815-530-3771, Lt. Tracy Philips (days) 815-791-7816.

All other counties:
Please dial 911 in case of an immediate emergency. For non-urgent situations, please see contacts page for information on whom to notify of an accident or injury.

COMPLETING THE PAPER MONITORING FORM (REQUIRED)

Online submission info is found at the end of Section 7.

Please respond to every question. Indicate NA if you do not know.

Refer to the previous monitoring reports! This is especially important for GPS coordinates, associates, threats, invasive species, and directions. Check each item to ensure all data are updated for the current year. If the information has not changed for GPS coordinates, associate species, or directions, write "same as previous report" in the corresponding section of the monitoring report. For GPS we encourage updating coordinates every 2-3 years, every year for annual species. For associates, if you indicate "same as previous report," check species off on your copy of the previous report that you take in the field and add any new species. Submit this marked copy with your monitoring form if you don't wish to recopy the list. This extra effort saves our staff and office volunteers significant time!

The Lead Monitor is the person on the monitoring team designated to submit forms. Other members of the team may take leadership roles in coordinating site visits, following the protocols, etc. All approved monitors for a site and species are given that assignment and can check the previous reports on-line, but only one person should enter data.

The POC monitoring form provides a "snapshot in time" taken in one visit or possibly two visits within a few days of each other when the plants are in flower. If the population was monitored previously try to visit the population within 10 days of the former visit dates for data consistency. However, if previous monitoring date was not during flowering time, it may be advisable to change the date. Discuss this with POC staff.

SECTION 1: GENERAL SPECIES AND SITE INFORMATION

Genus, species, and variety: Use the species name assigned to you for monitoring.

If there are multiple subpopulations spread over a wide area at one site with the closest plants separated by 50 meters or more, record each on a **separate** monitoring form as Subpopulation 1, 2, etc. Use the same EOR# and Site Name. Use the same subpopulation number as established in previous years.

EOR#: This number will be provided on your previous report or will be filled in later by staff. If it is a new population that has not yet been reported to the Natural Heritage Database, and therefore has no EOR#, write "new". Non-listed species have EOR #s generated through POC's database.

Landowner/Land Manager: Is the site on FPD, park district, or private land? Be as specific as you can. The land manager may differ from the owner (e.g. CFC manages Baker's Lake owned by the Barrington Park District), so write in both land manager and the official owner. (Your land manager can provide this information if you do not know.) The land manager is typically an agency or organization rather than an individual such as a steward.

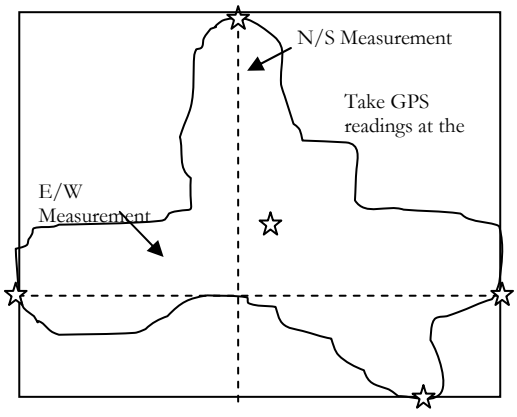
Searched, Did Not Find: Enter all information at the top of the form because it is still as important as if the population were found. Also complete Sections 4, 5, 6 and 7, describing associate species, threats, invasive species, and management if you were able to search the area where the population occurred in the past. Your notes should explain such things as the habitat searched, the information you used to search, and when plant was last seen, if known.

SECTION 2: GPS

GPS Coordinates:
For new POC populations/subpopulations or annuals; also former populations after 2-3 years: If you are using one of our units, it is set for a reading of decimal degrees in NAD 27. If you have your own unit, please set it for decimal degrees and for the map datum: NAD27 CONUS. The readout for this area will look something like N42.06229 W88.14495. Review the GPS guideline sheet in the Manual or on the POC website for further instructions before going into the field. Be sure to record accuracy in meters.

For populations smaller than ~ 15 m x 15 m: take **only one** reading in the center of the population. For larger populations: take readings **at the plants** that are furthest N,S,E,W, and at the population center (Figure 1). If a population is long but less than 13 m wide, take a reading at the beginning, center and end, indicating N, C, S or E, C, W. Record all your readings in the spaces provided.

Figure 1:



SECTION 3: POPULATION INFORMATION

Land area: measuring populations. Place flags or flagging around the perimeter of the population and at the center of the population (Figure 1). Use as many flags as you need to see the shape of the population area. You may also flag plants inside the boundary if it helps in counting plants or clusters of plants. Use a meter tape to measure the population. If a tape is not available you can calculate the areas of the population by pacing off. (See pacing exercise in the Manual or on the POC website.) Determine how long your pace is (in meters) and multiply that number by the number of paces it takes to walk the distance of the population to get distance in meters. Make sure your paces remain even. The best way to ensure this is to walk naturally, in a comfortable gait. Use your compass to keep in a straight line.

Populations should be measured at their widest points E/W and N/S. Visualize the population enclosed in a box that contains all the edges of the population. Record how many meters N/S and how many meters E/W. Hand drawn maps are not required, but they can be very useful. If the population is not a perfect square or rectangle, you may draw the shape of the population on your map or a separate sheet with the measurements you have taken. If the population covers several acres, you could use the scale on the map to estimate the size and outline the population shape in pencil on the map. POC staff can also calculate far distances between points based on the GPS readings.

Is the soil flooded, saturated, moist, well drained, or dry: The physical conditions of the soil can have a large impact on the plants. Mark the soil condition that occurs during your monitoring.

Number of plants: Check the POC website for the growth form designation for the species you are monitoring, or use the same unit used in previous reports. If the growth form on the website differs from what you used in the past, indicate in the Notes section whether that creates a discrepancy with past counts. A stem is a stalk emerging directly from the ground or from the base of the plant, with at least some space between stems. Even if the stem branches above its emergence from the ground, it is still considered a single stem. (examples: *Aster furcatus*, *Tomanthera auriculata*, trees). In clumped plants (examples: some grasses, sedges and shrubs, *Cypripedium candidum*), count the clump as a single plant and be sure to check "clump". Clumped plants may have more than one stem, but only count the clump. A rosette is a circle-shaped vegetative form of a plant, usually a dense cluster of basal leaves flatly hugging the ground (examples: Dandelions, *Cirsium hillii*, *Viola conspersa*). A flowering stem bolts from the center of the rosette when the plant matures and flowers. Whether you find a vegetative rosette or a rosette with a flowering stem, mark "rosette". If the plant you are monitoring does not fit any of these categories, mark "Other" and describe how the plant is growing, and what unit was counted.

Count the exact numbers of stems, clumps or rosettes if 100 or less. If more than 100 stems are present, you may estimate within one of the ranges given, but we encourage total counts if at all possible, even for large populations. If there are significantly more than 800 plants, please give your best estimate of how many plants.

Estimating Population Size (optional, for large populations over 250; see population estimation protocol in the Manual or on the POC website). In all cases where population size is estimated, make a note of how this was done (e.g., transect method described in protocols to estimate population). Include a drawing if it clarifies your method.

% Reproductive: Your species may have flowering and fruiting individuals at the same time. Sometimes there may be both flowers and fruits on the same plant. Indicate whether the plants were in flower, fruit, or both. As you count plants in small populations to determine the population size, keep track of how many of them have flowers and/or fruits on the stems; these are reproductive individuals. Divide the number of reproductive plants by the total number of plants you counted. (Example: If only 32 had flowers and 2 had fruit out of 100 you counted, you can determine the % of reproductives by 34/100=34%.) If you are estimating the plant numbers in large populations, use the percentages of reproductives derived from your transect counts or from a sample of counted plants. If you are only counting **only** flowering/fruiting plants because you are unable to identify juveniles, the % reproductive is 100.

Note: On occasion your plants may be totally vegetative. If there are no fruits or flowers, indicate vegetative. If, rarely, monitoring is done after flowering and fruiting, when no reproductive parts would be visible, answer NA. In this case, it is unclear whether the plants were reproductive, so it would be inaccurate to call them vegetative.

Juveniles present: Are there seedlings or immature plants? (Annual plants do not have juveniles even when some individuals in the population are not reproductive.) It may take time to determine within the population area whether there are small, vegetative plants with the same leaf characteristics. It may take some close looking to find them - moving aside other vegetation to look near the ground. They are small and will not have flowers or fruit. (If you are not sure it is best to check: Don't Know.) Note: if you are able, it would be helpful to take a photo of a seedling or immature plant. Digital images are best because they can be shared electronically. **Include juveniles in your total count if you know how to identify them and can determine their number.**

SECTION 4: ASSOCIATE SPECIES INFORMATION

In this section, refer to the most recent monitoring report for comparison!

Associates: Record only DOMINANT native plants. These are the most numerous plants within the population and within 1-2 m of the population. Depending on the density of the vegetation, this may be 10 individual plants or hundreds of individuals. Use common plant names if necessary. On your first visit the land manager/steward/POC staff can help you if you are not familiar with all the plants. If you don't know a plant species, don't guess; just write down the plants about which you are confident. Only enter up to 3 most abundant trees, 3 most abundant shrubs, and 5 most abundant herbaceous species. If you want to list additional associates, put them in the margin and indicate they are not dominant. **If the associates are the same as listed on the last monitoring report, you may write "Same as previous report."** However, if you do, check species off on your copy of the previous report that you take in the field and add any new species. **Submit this marked copy with your monitoring form if you don't wish to recopy the list.**

SECTION 5: THREATS TO THE POPULATION

Compare current threats to the last report (if applicable), to determine if there are any changes. **Do** fill in all blanks.

Degree of threats:

Invasive brush encroachment (less than (<) 1 m tall): <u>woody</u> plants, native or exotic: estimate the percent of the population affected by their shade. Look for small woody stems as well as larger shrubs. Examples of native woodies that can be invasive are Grey Dogwood, Green Ash or Quaking Aspen.

Invasive large brush/tree encroachment (greater than (>) l m tall): <u>woody</u> plants, native or exotic: estimate the percent of population impacted by their shade.

Deer browse: Estimate the percentage of individuals of your target species that have been browsed. In the second line, estimate the percent of individuals of all plants, including the target species, in the population area and the immediate vicinity (1-2 m), that have been browsed.

Erosion: Estimate the percent of the population area impacted by erosion.

Other: If you notice additional threats write them down in the "other" section and record their degree of impact. Types of other threats include: insect damage, drought stress, human trampling, human theft/damage, trail mowing, ATV's, nearby development and other land uses that would negatively impact the population.

Authorized/unauthorized trails: Does either type of trail threaten the plant population under study? Unauthorized trails can include deer paths. Authorized trails include signed trails, roads and railroads.

Invasive species: Use either common or scientific name. Check the percent of invasion. <u>Invasive species can be exotic or native.</u> See the Invasive Species List in the Manual on page 26 or on the POC website.

New Invaders Watch Program (NIWP): Monitors have an opportunity to search for new, potentially invasive plants on the NIWP list, developed through The Nature Conservancy and its partners. This optional program will provide an information packet with a species watch list and instructions on how to record and submit data on those species, separate from POC forms. POC monitors should also record these NIWP invaders in the invasives section of the POC form if they occur within the monitored population. For further information, please contact Karen Tharp of The Nature Conservancy or Deb Maurer of the Lake County FPD (see Contacts section).

SECTION 6: MANAGEMENT WITHIN THE POPULATION

Management: We are looking for management that directly impacts the population, so only record management that has been done within the past year and immediately adjacent to or within the population. Record percent of population affected. Record management that you can observe or that you participated in or know about.

Burning: Look for ash on the ground or an absence of leaf litter (woodland) or duff (dried matted vegetation - prairie).

Brush, or invasive tree removal: Look for freshly cut stumps within and immediately surrounding the population as well as recently piled brush in the vicinity of the populations. Although fire is also a brush management tool, what is intended here is manual/mechanical brush removal. Indicate species removed.

Herbaceous invasive removal: Look for piles of invasives that have been pulled out (e.g., Sweet Clover, Garlic Mustard), or brown stems that have been herbicided. Indicate species removed.

Mowing: Within the population look for evenly cut stems and fresh clippings. Only include mowing that has clearly been done as management in primarily open or prairie areas, although small brush may also be removed by this activity. Inadvertent mowing (i.e. trail mowing accidentally affecting a POC population) is a threat to the population and should be noted in the 'Threats' section.

Other: If you notice or know of any other management being conducted within the population note it here, along with the percent of the population affected. This might include hydrological remediation or deer culling.

SECTION 7: DIRECTIONS TO POPULATION AND NOTES

Location: Required only for first time visits, for new subpopulations found, or for annual plants whose location may change. Be as specific as possible when describing the location of the population. This information will be used for many years by other authorized researchers, so it is imperative that a written record of the population location be kept. Use as many permanent landmarks as possible in your description (large boulders, roads, buildings, etc). Start general in location and then get more specific. In general refer to the nearest town, route, and parking area. Specifically, use local landmarks to create a "trail" for the person to follow, for example: take main trail East for 100m to large boulder on right and go South for 50m. **If no change, write "same as previous report."**

Notes: Insert here any additional observations you think are relevant, such as insects observed on the plants, drought conditions, etc.

Monitor names: Include **names** of all monitors and whether they are volunteers, volunteer stewards, interns or staff. If a new unassigned volunteer participates, please notify POC and ask that person to complete a Confidentiality Form.

HOW AND WHEN TO SUBMIT YOUR FORMS (Lead Monitors only)

Even if you submit on-line, POC and the Land Manager require a paper field form that captures the critical data of field observations (and provides a backup if anything ever happens to the database!). The original data are very important to the scientific value of the program. Monitoring forms are completed in the field. If you wish to recopy your field notes onto a fresh form, please submit your field notes as well.

Submit your monitoring report within 3 weeks but no later than September 15 for late-blooming species.

Submitting paper forms: Make two copies of each of your completed monitoring reports and maps. Please check the boxes at the top of the form for those actions you have taken.

- Send the original monitoring form(s) and maps to POC. Keep a copy of each monitoring form with maps for yourself. Also we require a signed Confidentiality Form for each monitor, so please ensure that all monitors on your team have submitted this form.
- At the same time, submit a copy of the monitoring form(s) and any maps to the land manager (see below) for him/her to complete the Land Management form.
- See Contact Information for addresses for paper submission.

Submitting on-line (www.plantsof concern.org): input your monitoring form(s) within 3 weeks of completing your monitoring assignment but no later than September 15. Your login for the secure site is the first letter of your first name and your full last name. The password is your initials and four digits of your choice. For example, John Smith's login would be: jsmith. Choosing the numbers '5943', his password would be: js5943. For you to access the site, we need to input your login number and code. If you do not already have access, please provide this information to POC (see form on p. 33). If you submitted your form online, please check the box indicating you have done so at the top of the paper copy before sending it to us. Directions for filling out online submissions are available online during submission.

We appreciate your keeping to these deadlines, as data entry is a several-month process. Your extra help in submitting on-line is urged and very much appreciated. Thank you!