

Suggested Guidelines for Conducting Rare Plant Surveys for Environmental Review



Purpose of a rare plant survey

Rare plant surveys are undertaken to ascertain the presence or absence of rare plant species on a particular site. A rare plant survey can confirm the presence of rare plants on a site, but unless the site is severely degraded, most rare plant surveys cannot definitively rule out the presence of rare plants on a site.

What is a rare plant?

A rare plant is one that is considered at risk of extirpation in the state. A list of these species can be found in Nebraska's state wildlife action plan, the [Natural Legacy Project](#). The species are categorized as Tier 1 or Tier 2 Species of Greatest Conservation Need. Tier 1 species are those that are globally or nationally most at-risk of extinction and which occur in Nebraska. Tier 2 plants include those that do not meet the Tier 1 criteria but are ranked by the [Nebraska Natural Heritage Program \(NENHP\)](#) as either State Critically Imperiled (S1) or State Imperiled (S2).

Qualifications of surveyors

Surveyors should have:

- Academic background in plant taxonomy (a bachelor's degree or higher in botany) or equivalent experience.
- The taxonomic experience to identify, through personal knowledge or the use of technical floras, most or all of the plant species they encounter in the field, and an understanding of how to contact taxonomic experts for the species they can't identify.
- A knowledge of the potential rare plant species in the survey area.
- The ability to use maps, GPS and other tools to adequately map rare plant populations.

Preparation for field work

1. Develop a list of potential rare plant species for the survey area, based on range and habitat requirements. The list should include scientific name, habitat, and appropriate time for successful identification. Resources include a field guide and a Nebraska Conservation and Environmental Review Tool report (cert.outdoornebraska.gov) run for the survey area.
2. Design field work so that each habitat within the survey area is visited at the appropriate time for the potential species in that habitat. Some surveys will require more than one visit.
3. Choose the appropriate level of survey intensity for the project. Complete surveys attempt to cover the entire area at a high level of certainty. Other surveys can focus on most likely habitats or areas most likely to be affected by the project. The survey intensity should be identified in the survey report.

Field work

Conduct surveys at the appropriate season for each potential rare species, for example when the species is in bloom or fruit and highly visible. Multiple site visits may be necessary. Identify and list species observed, not just the target rare species. Mapping of rare plants should be as precise as possible: the use of a GPS is recommended.

Rare plant survey reports

Reports should include a description of the project area, maps of the project area (USGS and project detail), maps of survey routes, survey dates and survey methodology, names of surveyors, list of all vascular plant species occurring on the project site, potential rare plant species for the project area, and factors that might have influenced the presence or abundance of rare species (annual rainfall, etc.). Reports should note whether the habitat for the suspected rare species is present or absent. If rare plants are found, maps of the population(s) and photos should be included.

Other resources

You may also contact Gerry Steinauer, botanist for NGPC, at gerry.steinauer@nebraska.gov, 402-694-2498.

THE THREE MOST IMPORTANT FACTORS IN A RARE PLANT SURVEY

The taxonomic ability of the surveyors

Surveying at the appropriate time of year

Full documentation of methods and providing sighting forms to NENHP