

Rapid Floristic Quality Assessment Protocol

Chicago Park District Natural Areas

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INTRODUCTION

This Rapid Floristic Quality Assessment (RFQA) tool facilitates rapid assessment of Chicago Park District Natural Areas and results in quantitative metrics of plant community quality. RFQA relies on meander-based sampling of common and relatively easy to identify species. The protocol was developed by Plants of Concern (POC) at the Chicago Botanic Garden and modeled after the Minnesota Pollution Control Agency's RFQA, developed for wetland habitats (Minnesota Pollution Control Agency 2012 & 2014).

SITES AND ASSESSMENT AREAS

Seven plant community types are targeted for assessment at CPD Natural Area sites. Each assessment area at a site represents all area covered by each plant community type. Assessment areas may be comprised of isolated patches of each plant community type. Plant community types include:

- woodlands
- prairies
- savannas
- wetlands
- shrublands
- dunes/swales/pannes
- riparian shoreline/wet prairie

MATERIALS

Maps

CPD provides site maps with assessment areas.

The Datasheet

The datasheet lists 186 species targeted for the rapid assessment. Species are separated into woody, vine, herbaceous, graminoid, fern, and invasive categories.

The Species List

The rapid list contains 186 species found across plant community types. A Rapid Color Guide has been developed to provide a quick reference on this list of species for assessors.

Nomenclature follows Flora of the Chicago Region (Wilhelm and Rericha, 2017). The list was developed based on distinctness, commonness, and dominance of each species.

METHODS

Sampling

Meander through the pre-defined assessment area, identifying and recording plant species on the rapid species list. The path should be random, yet intentional, reaching all parts of each targeted assessment area. Record up to three assessment areas on a single datasheet. Use multiple datasheets when more than three assessment areas are being surveyed at a site. When a species is found, circle one of the three spaces next to the species name corresponding to the assessment area in which the species occurs. Upon completion of the timed meander, assign a cover class value ranging from one to seven to each species in order to estimate total cover of the species across each area (Table 1).

On the datasheet, assessors record:

- **site name**, all **assessor names**, and **date** of sampling on every page of the datasheet
- **start time**, **end time**, & relevant **notes** at the top of the first page
- the **tally of new species** seen in the last ten minutes of the assessment (see Timing for details)
- **assessment areas** under 'Assessment Area Type'; these correspond to the three spaces in front of each species (see Sampling for details).

Table 1. Percent cover and descriptors for each Daubenmire cover class.

Class	Cover %	Descriptor
7	96-100%	Dominant
6	76-95%	Very common
5	51-75%	Common
4	26-50%	Regular
3	6-25%	Occasional
2	2-5%	Rare
1	0-1%	Very rare

Due to seasonal differences in plant species flowering times, prairies and savannas should preferentially be sampled in the late summer or early fall, while other sites should be sampled at a convenient, consistent time.

Timing

An important component of the rapid assessment is its constrained timing. An assessor visits a site and has a pre-defined base time dependent on the number of assessment areas to be included in the meander (Table 2). Start time is recorded on the datasheet, and the number of new species seen during the last ten minutes of the base time are tallied; if more than three new species are recorded in that time, an additional 10 minutes are added. Additional 10 minute intervals can occur up to three times. This method allows assessors to detect the leveling-off of a species area curve and provides flexibility to assess sites with differing richness levels. Once the meander is finished, the ending time is recorded on the datasheet.

Table 2. Base meander time is determined by the number of assessment areas (AA's). Base time is 30 minutes plus 20 minutes for each additional assessment area.

Number of AA's	1	2	3	4	5
Base Time (minutes)	30	50	70	90	110
If less than 3 new species are encountered during the last 10 minutes of the base time, stop the meander at the end of the base time.					
If 3 or more new species are encountered during the last 10 minutes of the base meander time, continue the meander for an additional 10 minutes.					
Stop the meander when less than 3 new species are encountered during the 10 minute period.					

REFERENCES

Minnesota Pollution Control Agency (MPCA). 2014. Rapid Floristic Quality Assessment Manual. wq-bwm2-02b. Minnesota Pollution Control Agency, St. Paul, MN

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