

# Floristic Quality Assessment



*Floristic Quality Assessment (FQA) is a standardized assessment method that calculates a numerical index reflecting the quality of native plant communities for a given area. It indicates the impacts of invasive species and can also be used to monitor the effectiveness of land-management and restoration practices.*

## Introduction

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Floristic Quality Assessment (FQA) is a tool used by government agencies and conservation organizations to analyze the ecological value of an area based on its plant species composition. First introduced in the 1970s, it is based on the fact that some plants are not particular about where they grow (for instance, they might thrive in roadside ditches) while other species only grow in specialized habitats. In general, an increased presence of these specialized species means that an area is less ecologically degraded.

Though the FQA method is widely used and can be effective, it is [limited in several ways](#) and should not be used as a standalone tool to evaluate ecological quality. It works best when used in conjunction with other tools.

## How It Works

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For various regions in Pennsylvania and nationwide, botanists have catalogued plants and assigned each a number from zero to ten. (This number is known as the coefficient of conservatism, or C value.) Zero represents the plant species most tolerant of degraded areas and is assigned to invasive or introduced nonnative species, while 10 represents species—including many rare and endangered plants—that require high-quality natural areas and do not regrow after disturbance. These plant inventories have been incorporated into FQA calculators such as the [Pennsylvania FQA Calculator](#) and [Universal FQA Calculator](#) (see “FQA Calculators”).

To conduct an FQA for a site using one of these calculators, the user must first identify all the species of plants present. (Land managers might choose to conduct an FQA for an entire property or conduct separate FQAs for different habitats or parcels within a property, especially if those areas require different management regimes.) Then, the user enters the name

of every plant species present in the study area into the calculator. (For large study areas, land managers often use sample plots to inventory species.) The calculator produces several metrics. The most important are:

- **Floristic Quality Index (FQI):** Indicates overall vegetative quality of the site. Generally, 1–19 is low quality, 20–35 is high quality, and above 35 is exceptional.
- **Total Mean C:** Mean coefficient of conservatism value of all species present.
- **Native Mean C:** Mean coefficient of conservatism value of native species present. A difference between native mean C and total mean C greater than five suggests that native species have been compromised by non-native species.

## Applications

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By conducting periodic FQAs and comparing the metrics, land managers can monitor vegetation changes over time, compare the effectiveness of different management and restoration techniques, and identify threats from invasive species. Land trusts and governments can use FQAs (as part of a larger set of tools and considerations) to compare and prioritize potential conservation targets.

See the [Floristic Quality Assessments](#) section at [ConservationTools.org](#) for a variety of FQA reports and studies from across the U.S.

## FQA Calculators

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There are two prominent online FQA calculators available free of charge:

- The [Pennsylvania Floristic Quality Assessment Calculator](#) allows users to analyze habitats in Pennsylvania. The state is divided into several regions, each with their own plant catalogue.

- The [Universal Floristic Quality Assessment Calculator](#) is an open-source tool that includes plant databases from across the United States and has been used to calculate thousands of assessments. (The tool is free, but users must register with their email address.)
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The most recent version of this guide and related resources can be found online at

[Conservationtools.org/guides/33](https://conservationtools.org/guides/33)

[Nate Lotze](#) prepared this edition of the guide. A small portion of its content derives from the Pennsylvania Land Trust Association's now obsolete *Plant Stewardship Index* guide of 2009 written by Jeannine Vannais.

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