

RATE MY LAND (RML) ASSESSMENT
PLANT DIVERSITY INDEX REPORTING FORM
To be completed and signed by a biological consultant

Category

Score

1a. FQAI score (calculated for the entire property)

____/75

1b. Estimate for percent of total species identified (using the following guidelines)

50-75% (one thorough field survey) = 0 pts.

76-90% (two surveys, at least one thorough) = 2.5 pts.

91-95% (three field surveys, at least one thorough) = 5 pts.

>96% (multiple surveys covering entire property throughout growing season) = 10 pts.

____/10

2a. Invasive species (those listed in a regional invasive species list)

0-2 species = 10 pts.

3-6 species

Abundance ranking (any one)

1 (observed) = 9 pts.

2 (common) = 8 pts.

3 (abundant) = 6 pts.

7-11 species

1 (observed) = 8 pts.

2 (common) = 7 pts.

3 (abundant) = 5 pts.

12-16 species

1 (observed) = 7 pts.

2 (common) = 6 pts.

3 (abundant) = 4 pts.

17-21 species

1 (observed) = 6 pts.

2 (common) = 5 pts.

3 (abundant) = 3 pts.

22+ species

1 (observed) = 5 pts.

2 (common) = 4 pts.

3 (abundant) = 0 pts.

____/10

2b. If abundant invasive species are concentrated (see instructions) add up to 4 points

3. Property Fragmentation

No or little continuous habitat on neighboring properties

AND development significantly fragmenting property within = 0

Moderate continuous habitat on neighboring properties

OR development only moderately impacting property within = 1.75

Moderate continuous habitat on neighboring properties

AND development only moderately impacting property within = 3.25

Continuous habitat on neighboring properties

AND no impact from development within property = 5

____/5

4. Species of special concern

Add one point for every federal or state listed species

TOTAL SCORE

____/100

Company Name:

Consultant signature:

Company contact—email: _____ Phone _____

Please return completed form with any accompanying information to:

Email: ratemyland@gmail.com OR Mail: Information Manager, Rate My Land, 1331 Atkins Rd., Petoskey, MI 49770

PLANT DIVERSITY INDEX REPORTING FORM INSTRUCTIONS FOR CONSULTANTS

1. Adjusted Floristic Quality Assessment

1a. The adjusted FQAI (Miller et al. 2006) was incorporated into RML forms as recent research suggests it is sensitive to environmental stress by eliminating bias towards properties with high species counts (Wilson et al. 2013). It is calculated by:

Adjusted FQAI = $\frac{\bar{C} * \sqrt{N}}{10 * \sqrt{(N+A)}} * 100$, where C is the mean coefficient of conservatism of native species at a site, N is the number of native species, and A the number of non-native species

To score, multiply the FQAI score by 1.5 (a score of 50+ equals a perfect RML score). For FQAI values over 50 add one point for every FQAI point over 50.

1b. The sampling effort metric attempts to standardize sampling efforts, not for scientific comparisons, but to give the ranking more legitimacy for comparing one property to the next. This estimation allows for a customer (private landowner) to be able to receive an assessment at a lower cost (fewer field visits), but rewards a more thorough assessment.

- “Thorough” means the entire property was observed or a randomized, standardly acceptable sampling protocol was in place for the survey.
- Points can fall anywhere in-between zero and ten, feel free to use your professional judgment if survey was adequate with fewer site visits.
- You can award more points for utilizing standardized sampling protocols, incorporating confidence intervals, or calculating species detection curves.

2a. Assessing health by evaluating invasive species: The threat of invasive species jeopardizes the long term health of native plant communities. Not all non-native species should be considered invasive species, consult local or regional invasive species lists.

- Count total number of invasive plants and then give a relative abundance ranking based on the most abundant invasive plant. For Example: if the property has eight invasive plants and one is abundant then give the score according to the abundant ranking (this situation would receive 5 pts.).
- Observed = seen on property; Common = seen often throughout property; Abundant = well established and readily outcompeting native vegetation

2b. Pristine Communities: Since the invasive species metric above is for an entire property, this metric provides an opportunity to award points for a property that may have a natural community or an area that does not contain abundant invasive plants, thus they are “concentrated” elsewhere. Four points possible.

3. Property Fragmentation: Assess the health of the plant communities on the property by examining the future threats posed by fragmentation (i.e. edge effects).

- As a general rule if only “one side” of the property has a neighboring property with natural land then there is little continuous property, two sides is moderate, and three sides is continuous.
- For RML, developed land is land in human use (i.e. agriculture, yard, outbuildings). Natural lands are those not in active use (for at least three years).
- For adjacent old fields and fields used only for haying, you can count them as continuous habitat if it is not an abrupt community change (i.e. Northern Mesic Forest on customer’s property and old agriculture field adjacent). Use your professional opinion.

4. Rare Species: This metric brings special attention and RML value to species of conservation concern.

- Miller, Sarah J., and Denise H. Wardrop. "Adapting the floristic quality assessment index to indicate anthropogenic disturbance in central Pennsylvania wetlands." *Ecological Indicators* 6, no. 2 (2006): 313-326.
- Wilson, Matthew J., Andrew S. Forrest, and Suzanne E. Bayley. "Floristic quality assessment for marshes in Alberta's northern prairie and boreal regions." *Aquatic Ecosystem Health & Management* 16.3 (2013): 288-299.