

**Mid-Michigan Stewardship Recommendations for Mixing EPA/DEQ-approved Wetland Herbicides for Japanese Knotweed and Phragmites**

Herbicide Dilution Calculation	Starting Concentration	Final Concentration	Dilution in parts herbicide:parts( water+adjuvant)	Herbicide Dilution Calculation	Oz./1 gal	Oz./2 gals	Oz./3 gals (Solo backpack sprayer)	Oz./10 gals	Oz./20 gals
<b>Imazapyr/Habitat (JK) 0.5% final concentration of active ingredient for foliar spray of Japanese knotweed (avoid using or use very lightly near trees)</b>	28.70%	0.5%	dilute 1:56	<b>Imazapyr/Habitat (JK)</b>	2.3	4.6	6.9		
Cygnnet Plus adjuvant	100%	0.50%	dilute 1:200	Cygnnet Plus adjuvant	0.6	1.3	1.9		
Cygnnet Select aquatic dye**		0.10%		Cygnnet Select aquatic dye	0.2	0.4	0.6		
<b>Glyphosate for foliar spray of Phragmites (AquaNeat/AquaPro/AquaMaster) 1.5% final conc. of active ingredient (does not work for Japanese knotweed)</b>	54%	1.5%	dilute 1:36	<b>Glyphosate for phrag (AquaNeat/Pro/Master)</b>	3.6	7.1	10.7	35.6	71.1
Cygnnet Plus adjuvant	100%	0.50%	dilute 1:200	Cygnnet Plus adjuvant	0.6	1.3	1.9	6.0	12.0
Cygnnet Select aquatic dye**	100%	0.10%		Cygnnet Select aquatic dye	0.2	0.4	0.6	2.0	4.0

\*\***Note on aquatic dye:** typically we use none (if not needed to see where we sprayed) or we use 1cc=1ml per gal solution to avoid dye discoloration of skin/hair/clothes. This is much less than the DEQ allowed amounts listed above.

**Notes on D-limonene-based adjuvant:**

Cygnnet Plus manufacturer's recommendation 0.25%

Vern Stephens' recommendation for using Cygnnet Plus with Imazapyr DEQ recommended concentration of Cygnnet Select for use with glyphosate **0.50%** This is the concentration we use for all herbicides needing aquatic non-ionic adjuvant; read herbicide label for this information

0.75%