To determine species composition of each group in a meaningful metric (i.e., abundance), we generate the scaled phi matrix in the following way. In an area that is completely dominated by group k, we have that:

What does this mean in terms of abundance of species s? Notice that:

where for j=1,…,J are the unique values of . Therefore:

This is the expression that we need to use to translate into under the assumption that an area is completely dominated by group k