Tadpole data

This is data is a subset from a large ongoing study conducted by Dr. Janet Koprivnikar at Ryerson University. The ultimate question is to see how trematode infections (which require multiple hosts to transmit, often an aquatic snail and one definitive vertebrate e.g. fox, herons etc), vary between agricultural and non-agricultural ponds and the impact this has on the tadpoles which inhabit these ponds. These agricultural ponds typically receive large inputs of nutrients and other chemical compounds such as atrazine, an herbicide. These compounds have been shown to lower the immune function in tadpole making them more susceptible to parasitic infection. The two specific questions that we were trying to address with this data were:

1. Do ponds differ in landscape characteristics depending on what type of land use they are situated in (agricultural or non-agricultural, forested sites)? In other words, what are the main structural differences between the two types of ponds?
2. Do parasites occur in ponds with similar environmental features (e.g. land use, distance to the closest road, forest etc.)? In other words, do specific landscape characteristics drive the prevalence of trematode?

To answer both of these questions we would need to delve deeper in multivariate statistics but we can certainly investigate the first question using a PCA, which is what you will be doing.