Landscape Genomics Study for California Tiger Salamander

The California Tiger Salamander (CTS) is state and federally listed species. As a result, Caltrans is required to consult with regulatory agencies about impacts of transportation projects. A major conservation issue for CTS is the ongoing hybridization with the introduced non-native Barred Tiger Salamander (BTS). Thus, CTS recovery, in part, depends on preventing the geographical spread of such introgression. This project will provide measurable effects of roads on the movement of pure CTS genes where undercrossings will be useful to promote movement of native genes and areas where such crossings should not be installed to inhibit the spread of non-native BTS genes.

The main tasks that will be completed in this research are:

- running simulations to determine how many animals per pond to sequence;
- identifying tissue samples to examine from existing database;
- identifying and collecting new samples from georeferenced sampling locations; and
- collecting molecular data from all samples