The genus *Aedes* refers to a group of widely distributed species of mosquitoes, some of which are capable of transmitting deadly arboviruses. One species present in Illinois, *Aedes triseriatus*, is the primary vector for La Crosse encephalitis virus (LACV). LACV is the most prevalent arboviral disease among children in the United States, occasionally causing brain inflammation, paralysis, and death. More than half of all reported LACV clinical cases in Illinois are distributed throughout the three connected counties of Peoria, Woodford, and Tazewell. The distribution of LACV extends into western Illinois, having resulted in cases in Fulton, McDonough, and Hancock counties. In this study, our goal was to assess the abundance and distribution of potential arbovirus vectors. From June to September of 2014, mosquitoes were collected and identified to species. *Ae. triseriatus* was found to be the most abundant species. A dangerous invasive species originally from East Asia, *Aedes japonicus*, was detected in four locations in western Illinois. These results provide the first distribution record of this species in Fulton County and suggest that there is an active population in McDonough and Cass County. Both *Ae. triseriatus* and *Ae. japonicus* are competent vectors for LACV, suggesting this arbovirus could potentially be transmitted to humans in this area. This study is part of an effort to begin active surveillance of *Aedes* species and invasive mosquitoes in western Illinois. We intend to investigate other counties in which the presence of certain species is ambiguous and continue to monitor their distribution and abundance.