**Introduction**

The emerald ash borer (EAB), *Agrilus planipennis Fairemaire* (Coleoptra: Buprestidae), is an invasive species that has killed millions of ash trees (*Fraxinus spp*.) in North America since it was discovered here in 2002. Although it had likely been in the US since the late 1990’s, the EAB has spread throughout much of the eastern half of the contiguous US and parts of Canada, destroying tens of millions of ash trees in its path. Because these beetles spend most of their life as larvae feeding on the inner vascular tissue of ash trees, most of their movement can be accredited to unintentional human transportation of infested wood. As a result, this pest is particularly hard to track and predict where it will move, making early detection of new infestations is a difficult task.

The effort to slow the spread of this pest is headed up at a federal level by the US Department of Agriculture (USDA) Animal Plant Health Inspection Service (APHIS) and typically by the individual Departments of Agriculture at the state level. Since the EAB was first found in Minnesota in 2009, it has spread rapidly to 14 different counties as of 2016. Currently, the Minnesota Department of Agriculture (MDA)

As the Emerald Ash Borer is making its way through Minnesota, early detection through public engagement and volunteer efforts may be the most effective and economically viable plan of attack. When new sightings are discovered in new counties, it is imperative to institute a quarantine as quickly as possible so the MDA has the authority to prevent firewood from spreading to new locations. If the MDA is able to prevent infested wood from leaving a quarantined area, it may provide enough time to introduce biocontrols to eradicate the local populations of EAB.

The mobile application is under development for both the iOS and Android platforms. In order to leverage ArcGIS technology in native applications, the ArcGIS Runtime Software Development Kits (SDKs) were used. The application for this project has been built separately for iOS and Android using the ArcGIS Runtime SDK for iOS and ArcGIS Runtime SDK for Android, respectively.

The Android and iOS platforms were chosen because collectively they make up 93.95% of the mobile market share as of June 2016, with Android taking 70.85% and iOS taking 23.1% (Epstein 2016). Despite the application being developed for two different platforms, the capabilities and functionality will accomplish the same goals: 1) incorporate a map view where new sightings of EAB are reported using the device GPS and stored in an ESRI Geodatabase, 2) allow users to identify/view sightings and Web GIS Services provided by the MDA for traps, biocontrols, and confirmed sightings, 3) provide the user with information on how to identify Ash trees and the EAB, 4) send an email to the the MDA when a new sighting has been logged, and 5) send out push notifications to everyone who has the app when a new sighting has been logged.