Summative Assessment

In the 1920, the Yosemite Valley floor was home to a diverse native plant community. A small number of Russian thistle plants, a non-native species, also occupied this ecological niche. For many years, the relative ratio of native to non-native plants was stable. In 1928, there was a fire that swept across the Valley floor. When the plant community began to grow back, the Russian thistle was the dominant species and occupied more than 90% of the ecological niche in the valley, but remained rare in the mountains.

1. How would you characterize the process that occurred between 1920 and 1928?
   a. The Russian thistle invaded the ecological niche of the wildflowers.
   b. The wildflowers outcompeted the Russian thistle.
   c. The wildflowers were destroyed in the fire.
   d. The wildflowers mutated and became less competitive than the Russian thistle.
   e. Alien invasion.

2. Which trait would allow the Russian thistle to become the dominant species?
   a. Large range of pH tolerance.
   b. Heat adaptation.
   c. High reproductive rate.
   d. b and c.
   e. all of the above.

3. In 1999, a flash flood swept across the valley floor. By 2010, all Russian thistle had disappeared. How could this have happened?
   a. Tourists collected the Russian thistles as souvenirs, causing the local extinction of the Russian thistle.
   b. Russian thistles are less drought tolerant.
   c. Russian thistles outcompeted the local wild flowers.
   d. The habitat was less suitable for the Russian thistle after the flood.
   e. The flood swept away all plants in the valley and the valley was recolonized by the plants above the valley.