



Image from: <http://factsheets.okstate.edu/documents/wrec-101-eastern-redcedar-encroachment-and-water-update-of-2010-research/>

The above image is an aerial photo of a test plot in Oklahoma. Eastern Red Cedar, the trees visible in dark green clumps in the image, will continue to spread overtime. One study found that cedar cover can increase in a grassland space by an average of 2.3% per year. (Source: Assessing the Rate, Mechanisms, and Consequences of the Conversion of Tallgrass Prairie to Juniperus virginiana Forest Author(s): John M. Briggs, Greg A. Hoch, Loretta C. Johnson, Ecosystems, Vol. 5, No. 6 (Sep., 2002), pp. 578-586. <http://www.jstor.org/stable/3658734>)

Document your team's calculations and rationale for the following:

Estimate the total current coverage, expressed as a percent, of the Eastern Red Cedar in the above image.

Given a 2.3% increase of cedar coverage per year, estimate what the canopy cover of cedars would be if left unmanaged for 10 years.

How long would it take to have 100% coverage?