

**CE 3354 Engineering Hydrology
Exercise Set 10**

Exercises

Figure 1 is a conceptualization of the Hardin Branch study area as three sub-watersheds, two are defined by the SCS reservoirs which regulate outflow based upon fill depth, and the third is the culvert/bridge west of Eden, Texas.

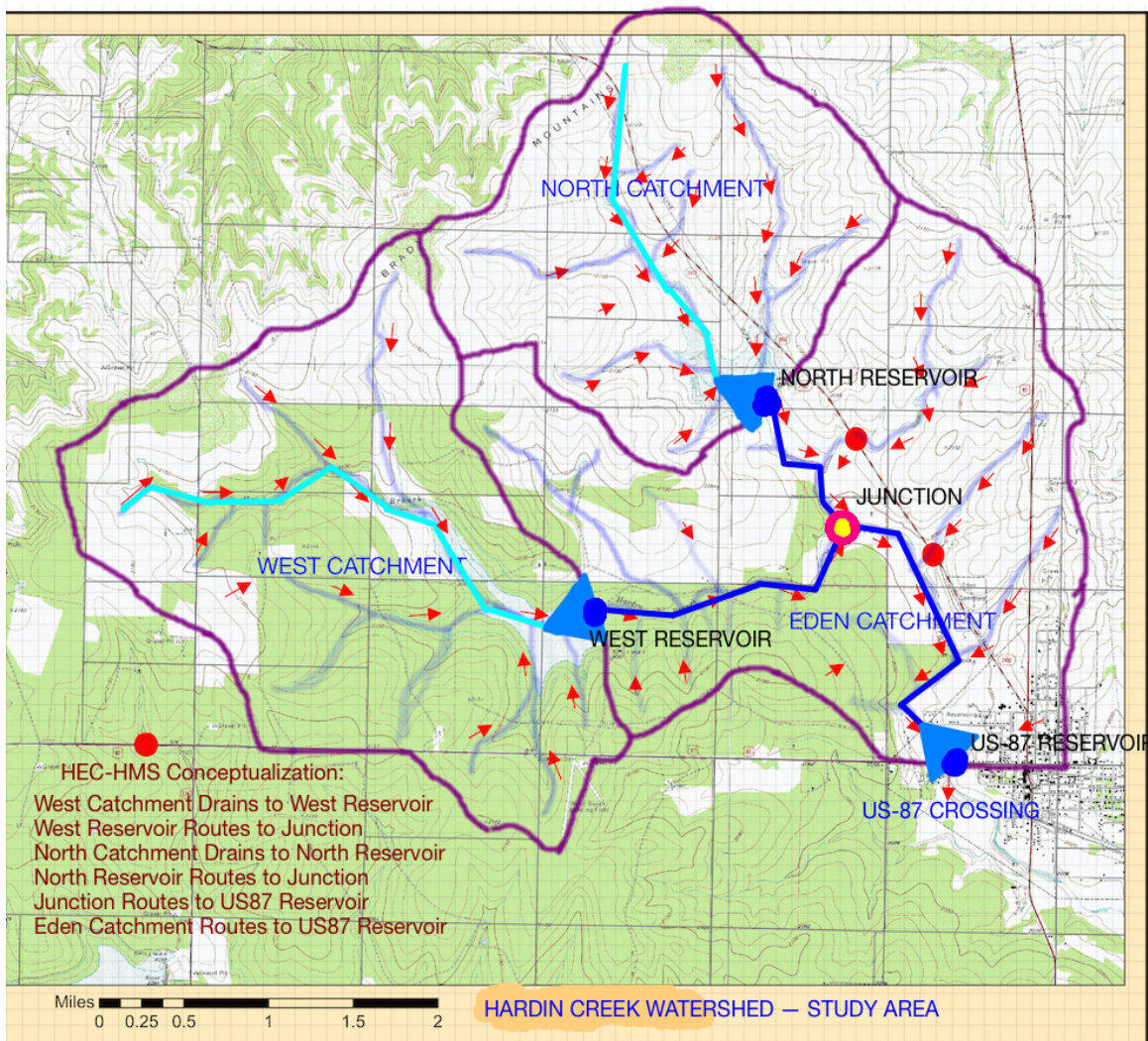


Figure 1: Rocky Run Branch Watershed

1. Estimate a basin characteristic time, basin lag or T_C , for the Hardin Creek Eden Catchment as depicted in Figure 2 using the Kerby-Kirpich Method, and the NRCS Upland Method.

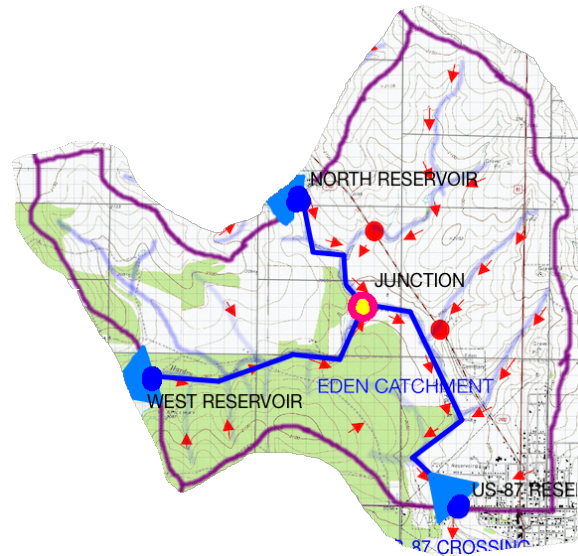


Figure 2: Eden Catchment

2. Estimate a basin characteristic time, basin lag or T_C , for the Hardin Creek North Catchment as depicted in Figure 3 using the Kerby-Kirpich Method, and the NRCS Upland Method.

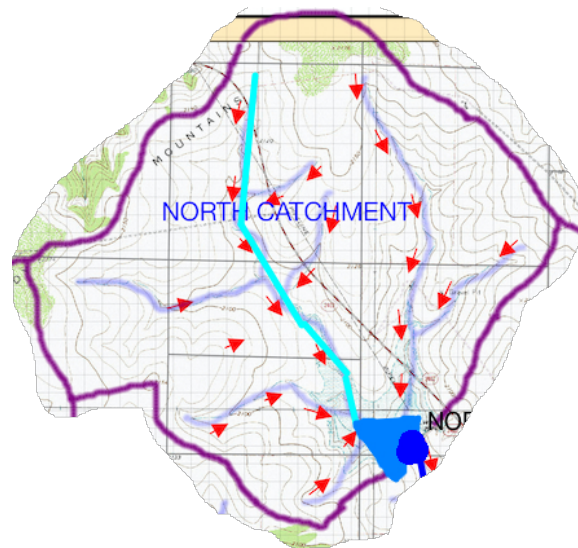


Figure 3: North Catchment

3. Estimate a basin characteristic time, basin lag or T_C , for the Hardin Creek West Catchment as depicted in Figure 4 using the Kerby-Kirpich Method, and the NRCS Upland Method.

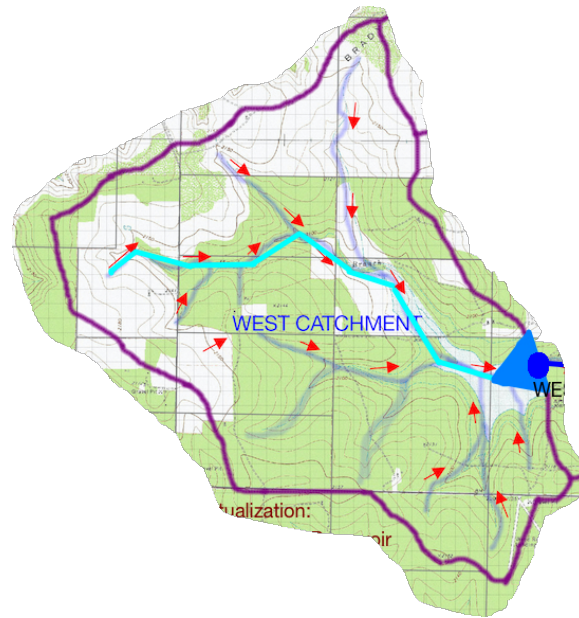


Figure 4: West Catchment

4. Write a brief description of the conceptual relationship of T_C and basin lag time (RSG pp. 364-370)