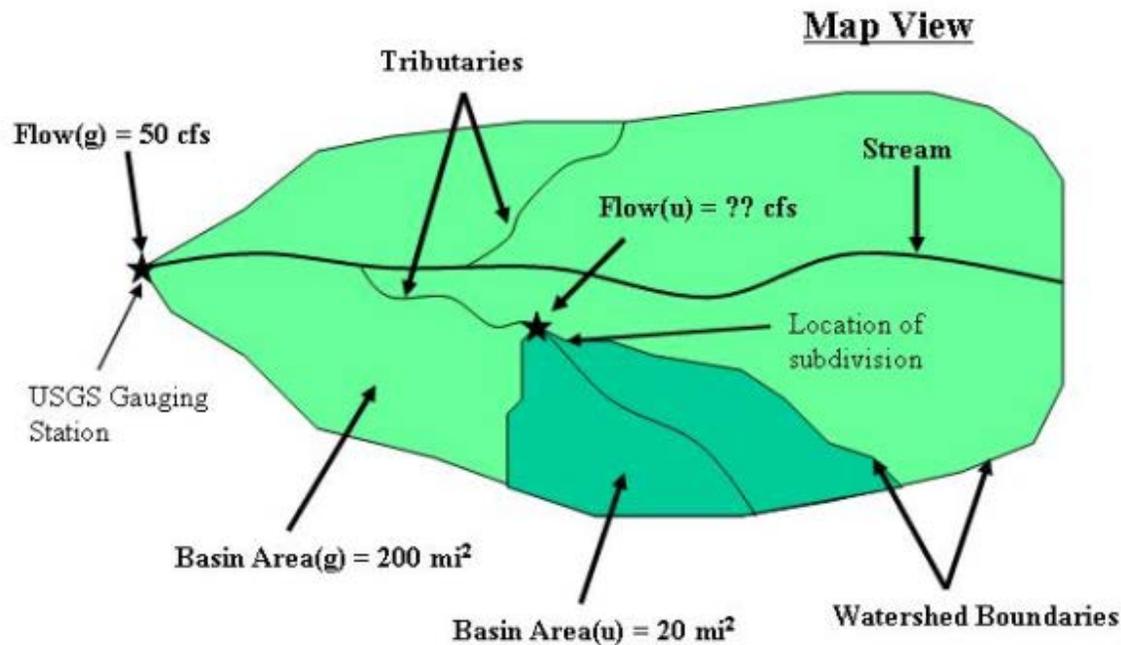


## Appendix S Estimating 14Q5 on an Ungauged Stream



**The equation to calculate the flow at the ungauged site [ Flow(u) ] is:**

$$Flow(g) / Basin Area(g) = Flow(u) / Basin Area(u)$$

$$50 \text{ cfs} / 200 \text{ mi}^2 = Flow(u) / 20 \text{ mi}^2$$

**Solving for "Flow(u)"**

$$Flow(u) = (50 \text{ cfs} / 200 \text{ mi}^2) \times (20 \text{ mi}^2)$$

$$Flow(u) = 0.25 \times 20$$

$$Flow(u) = 5 \text{ cfs}$$

Therefore, the 14Q5 value to use in the trigger value analysis would be 5 cfs.

NOTES:

- The values for Basin Area (g) and Flow(g) and Basin Area (u) are from USGS document located on the USGS website <http://pubs.usgs.gov/sir/2004/5266/> or from <http://water.usgs.gov/osw/streamstats/montana.html>
- Cannot use a dam influenced gauge station to extrapolate to a non-dam influenced stream