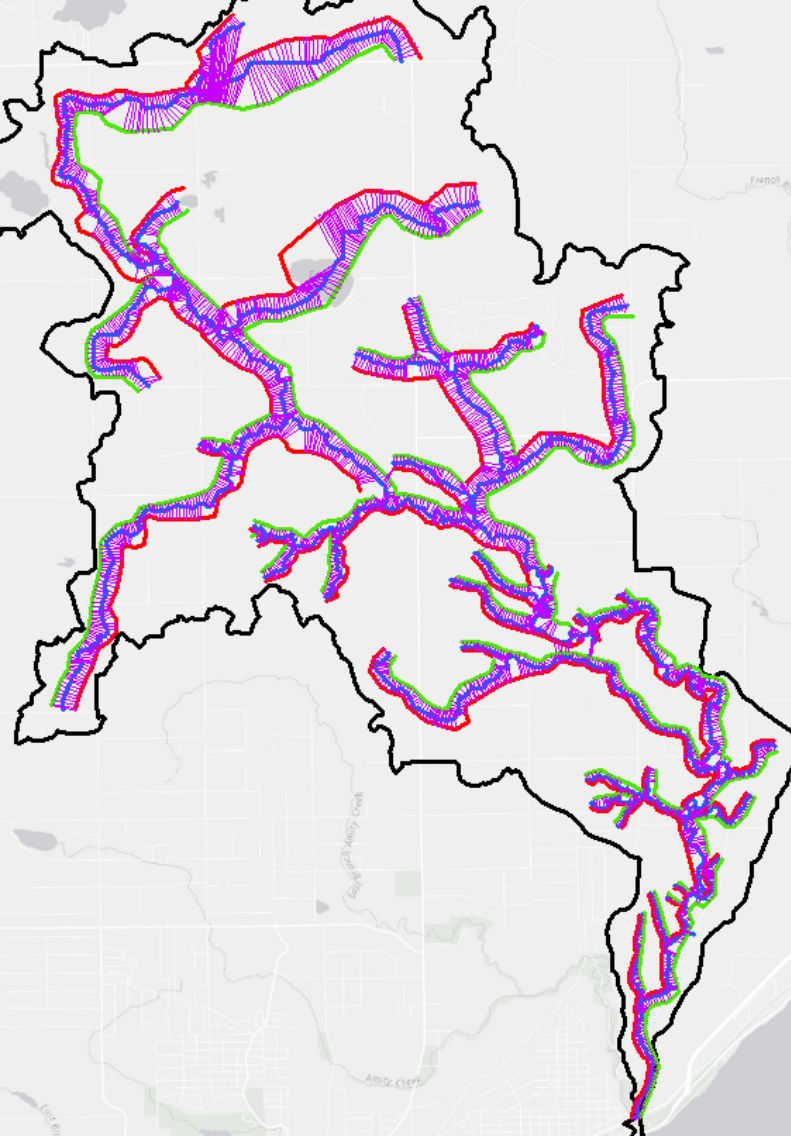# Cross-Sections Script

Michael Harris

05/27/16

- This tool creates cross-section that are perpendicular to the stream channel and mostly perpendicular to valley walls.

- Valley walls will be manually digitized by the user, but this is a fairly quick process, as it is not essential to have perfectly accurate valley delineations.

Michael Harris

Cross-Sections

- Copy/Save the folder 'StreamCrossSections' on your local drive somewhere.
  - Desktop/Documents, etc.
- You must move both the 'CrossSections.tbx' and Script folder together.
  - As the script folder is relatively tied to the ArcToolbox

Michael Harris
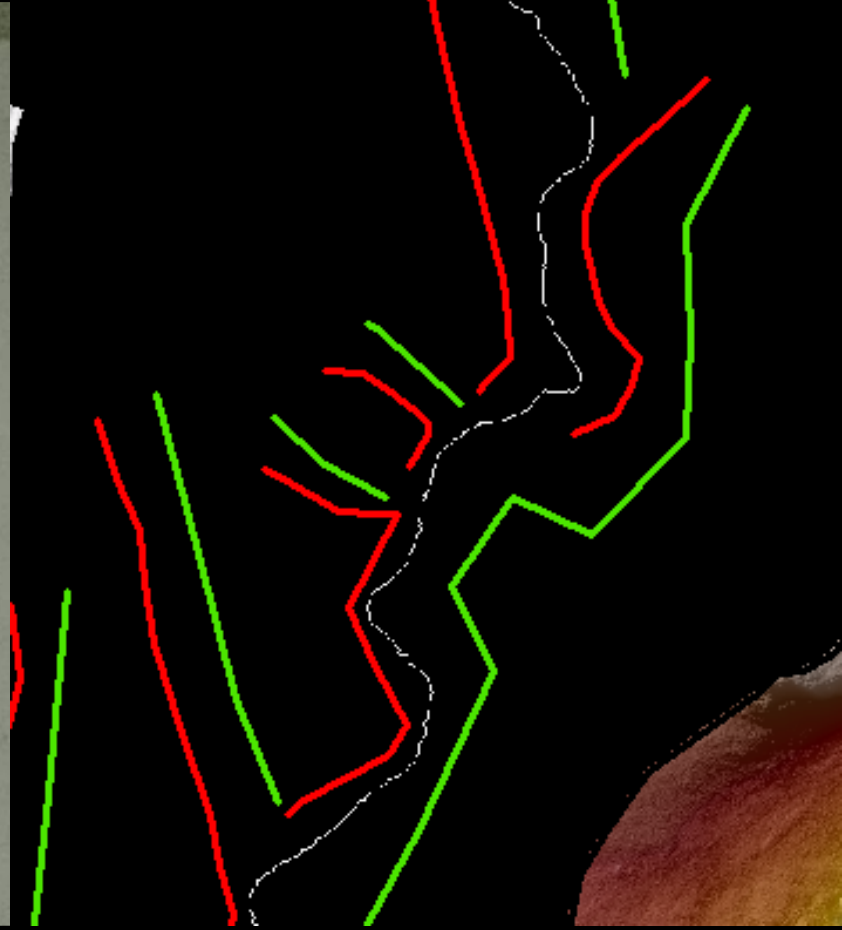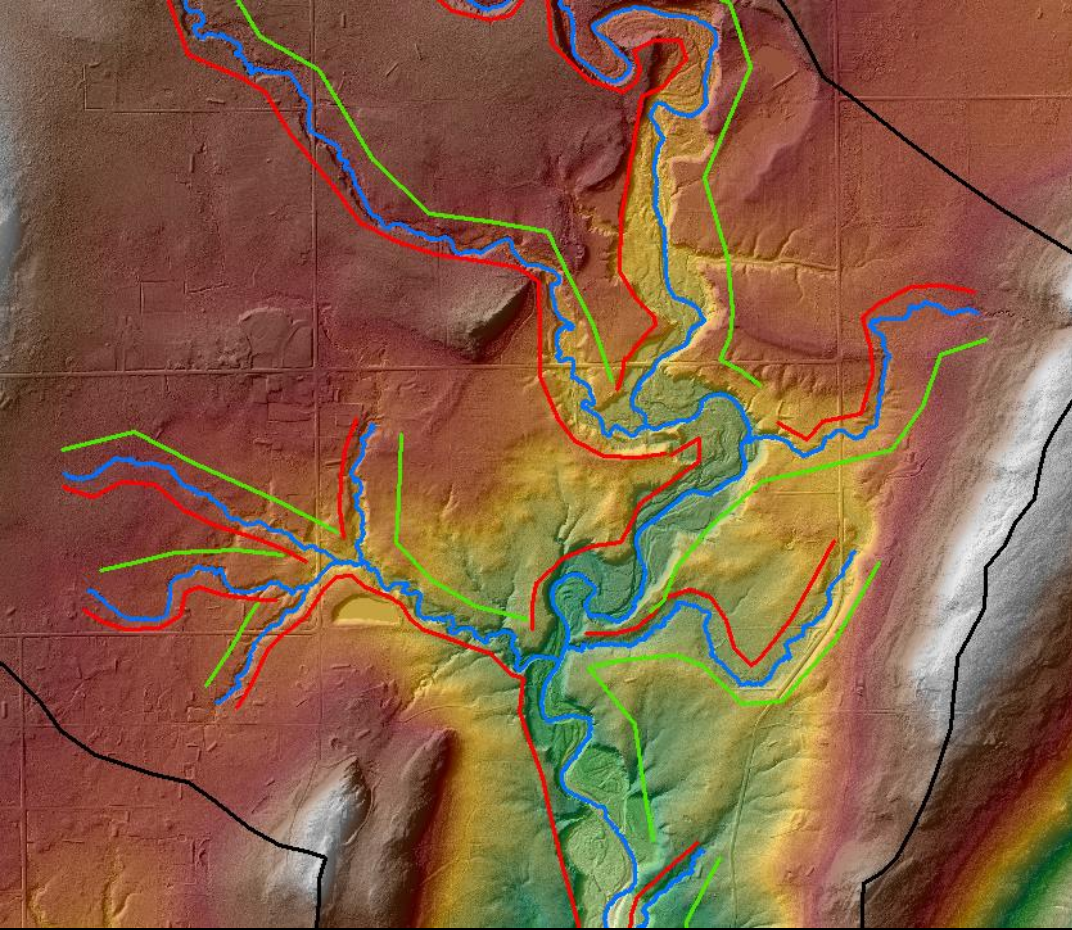
- Digitize valley walls (left/right) as separate feature classes or shapefiles
  - Ex: ValleyWall_Left.shp & ValleyWall_Right.shp
- Streamline should have already been created by Mark's tools
  - Needs to have route features (right-click layer -> properties -> 'Source' -> Under 'Data Source'; coordinates have measures = "Yes")
- Flow accumulation layer needed for calculating drainage area (used for stream width)
  - Again this should have already been derived by Mark's tools. (Ex: Flow_Acc.tif)

Michael Harris
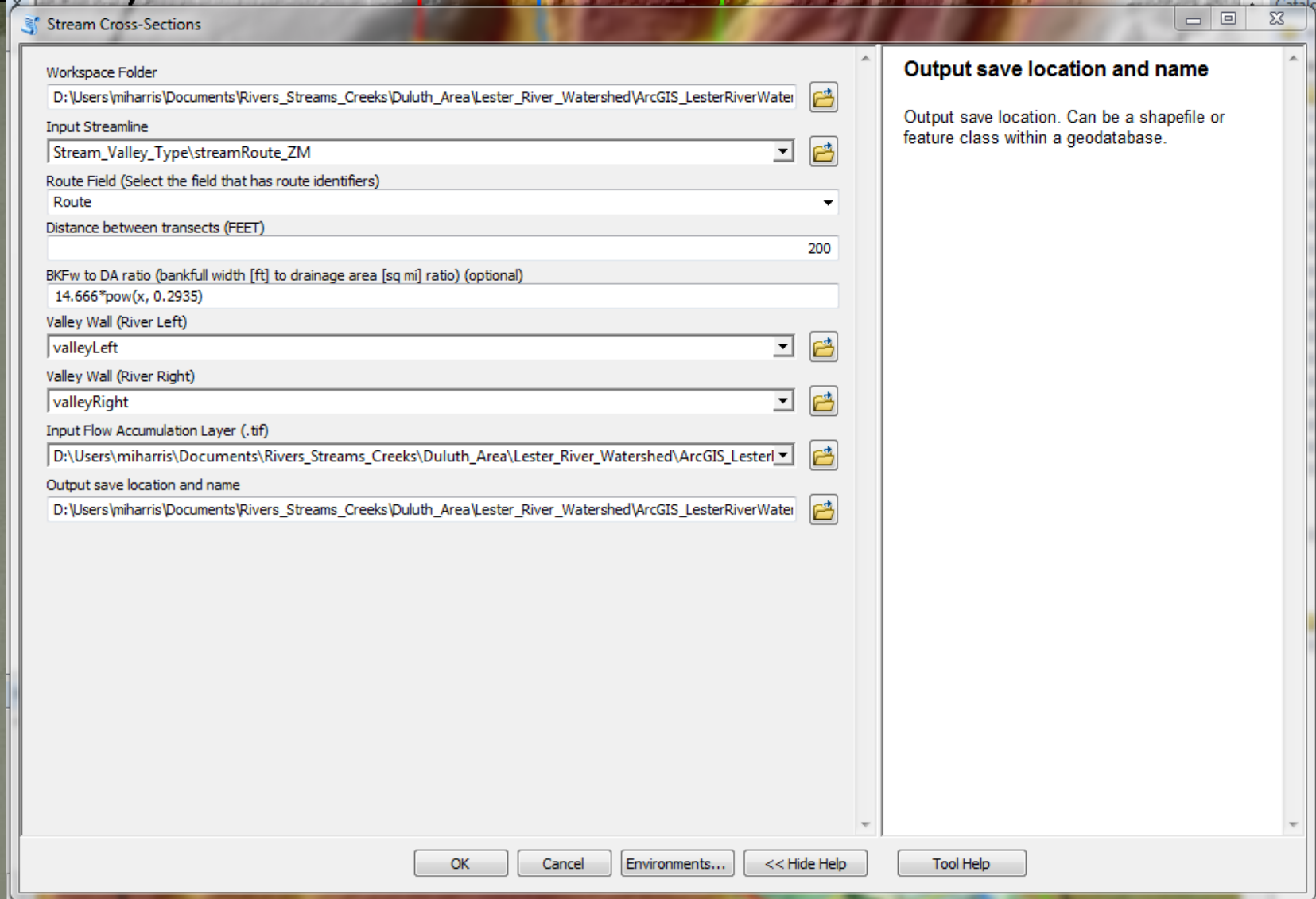
- Script Prompt
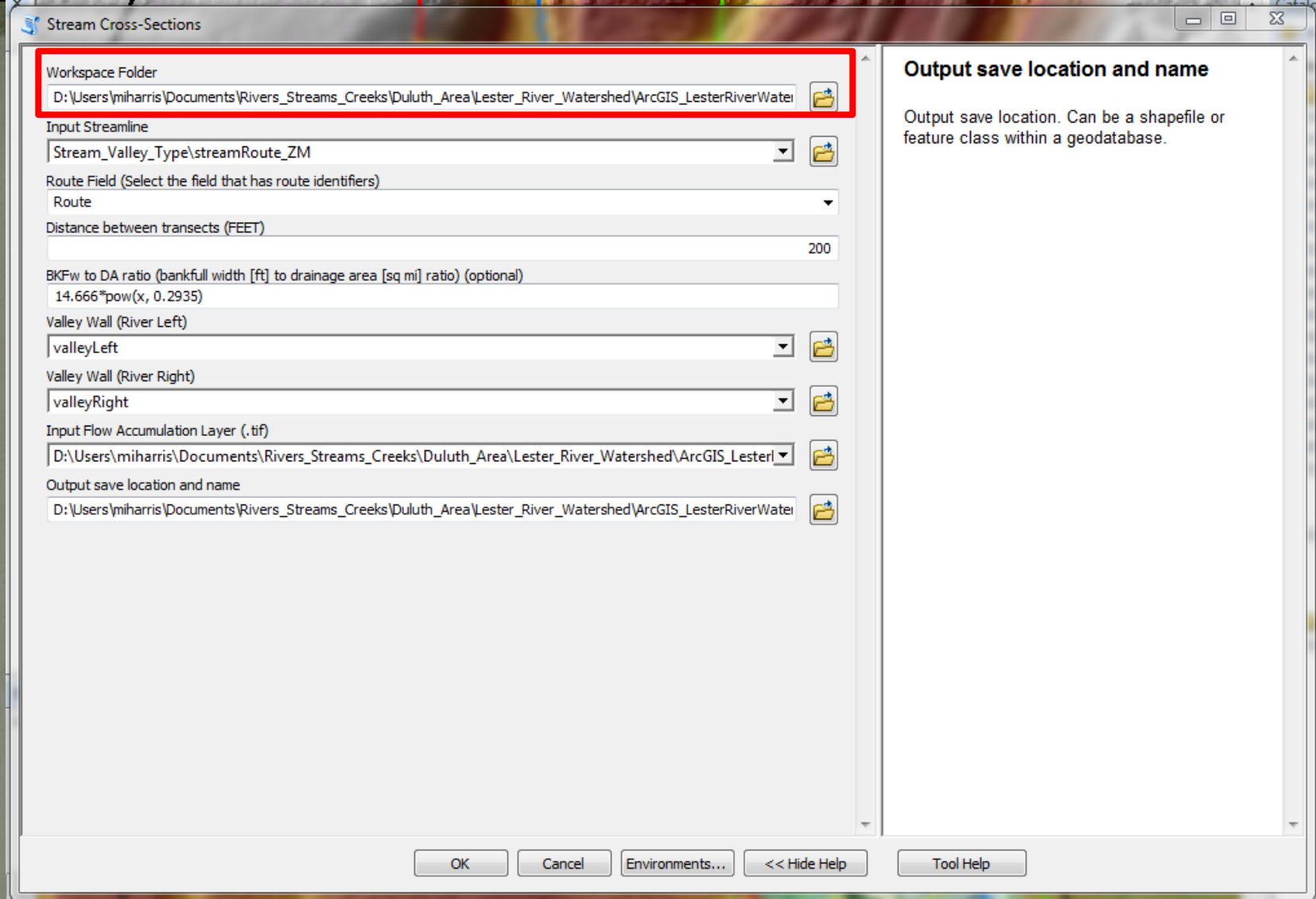
- Folder that will hold the intermediate files during the script execution
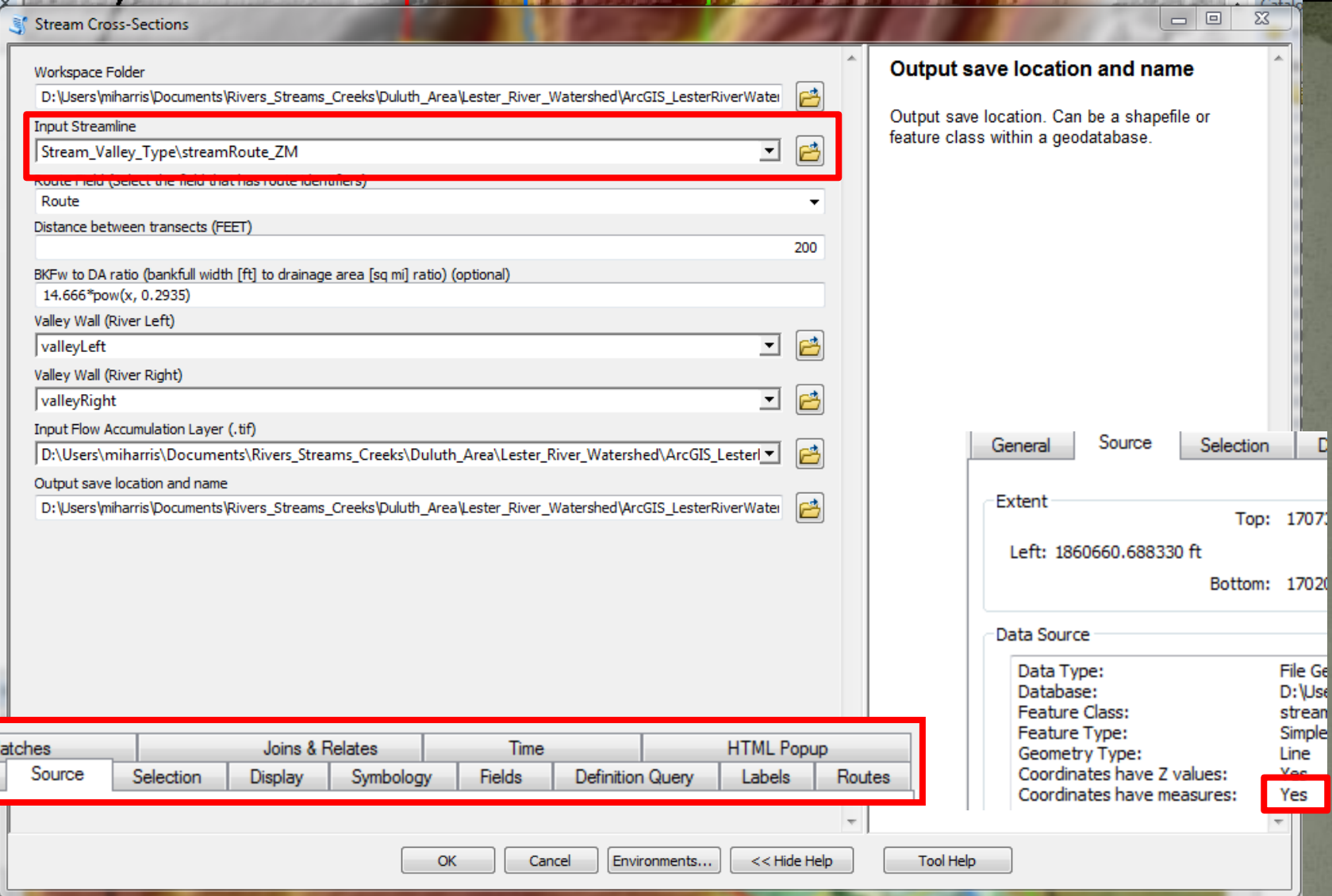
- Streamline (GDB feature class/shapefile) that has route information
  - This was already derived by Mark's tools
  - If the streamline has route features, you will see more tabs on the properties and the 'coordinates have measures' will say YES

Michael Harris

- The 'field' of the streamline that contains the route features.
  - You most likely labeled this field during execution of Mark's tools
    - Slide: ~40 [Dynamic Segmentation]

Michael Harris
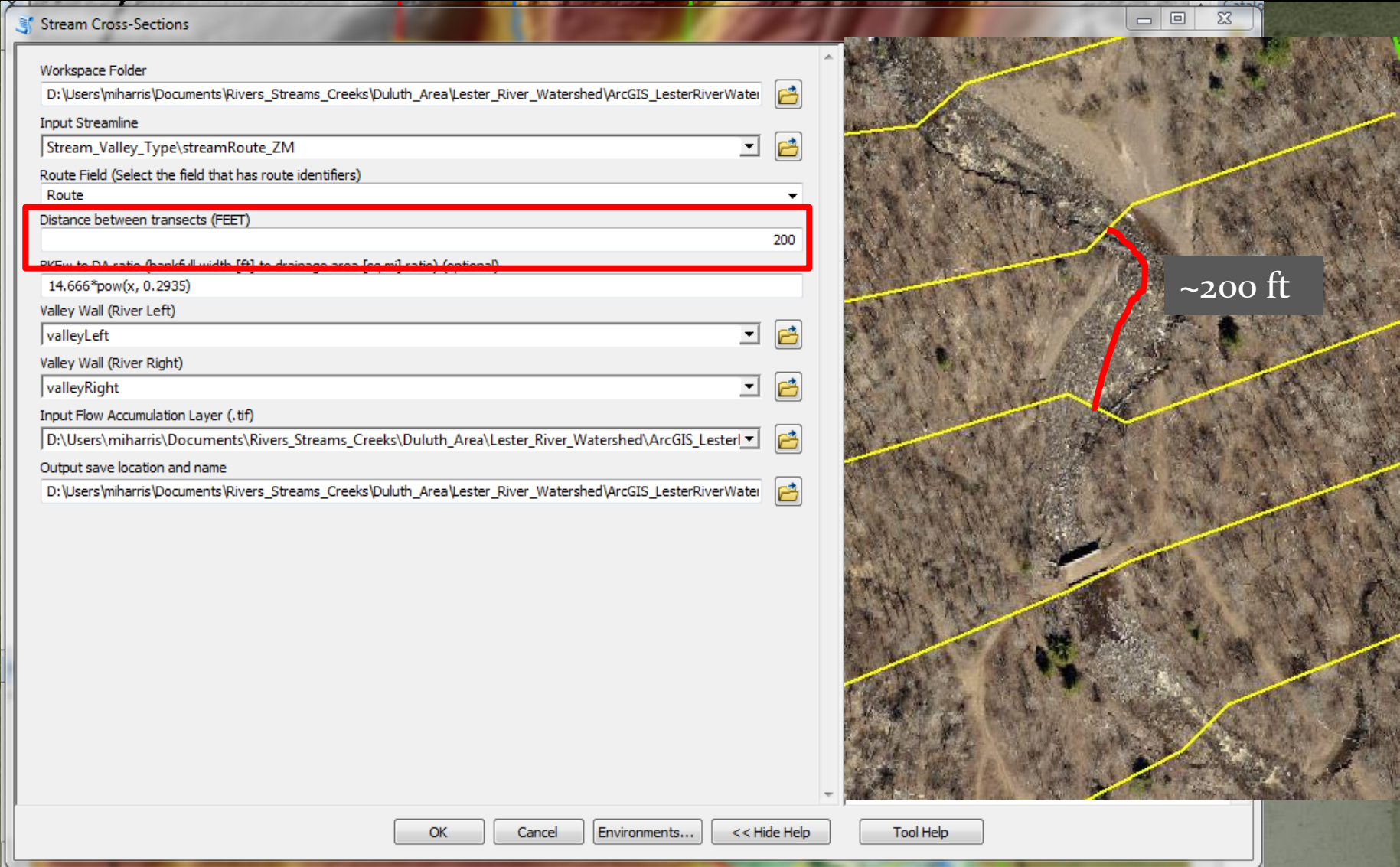
Distance between the cross-sections in feet.

Michael Harris
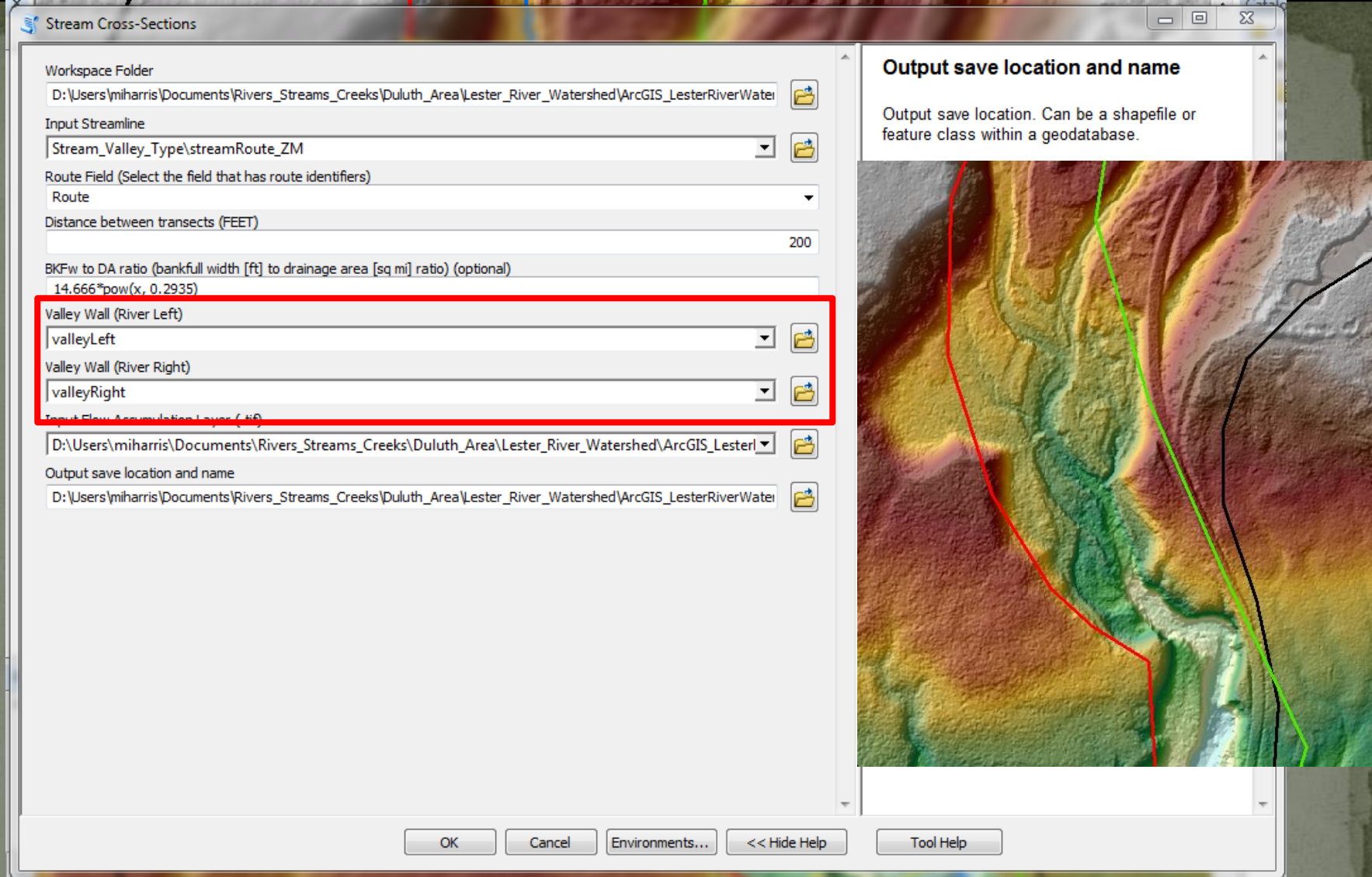
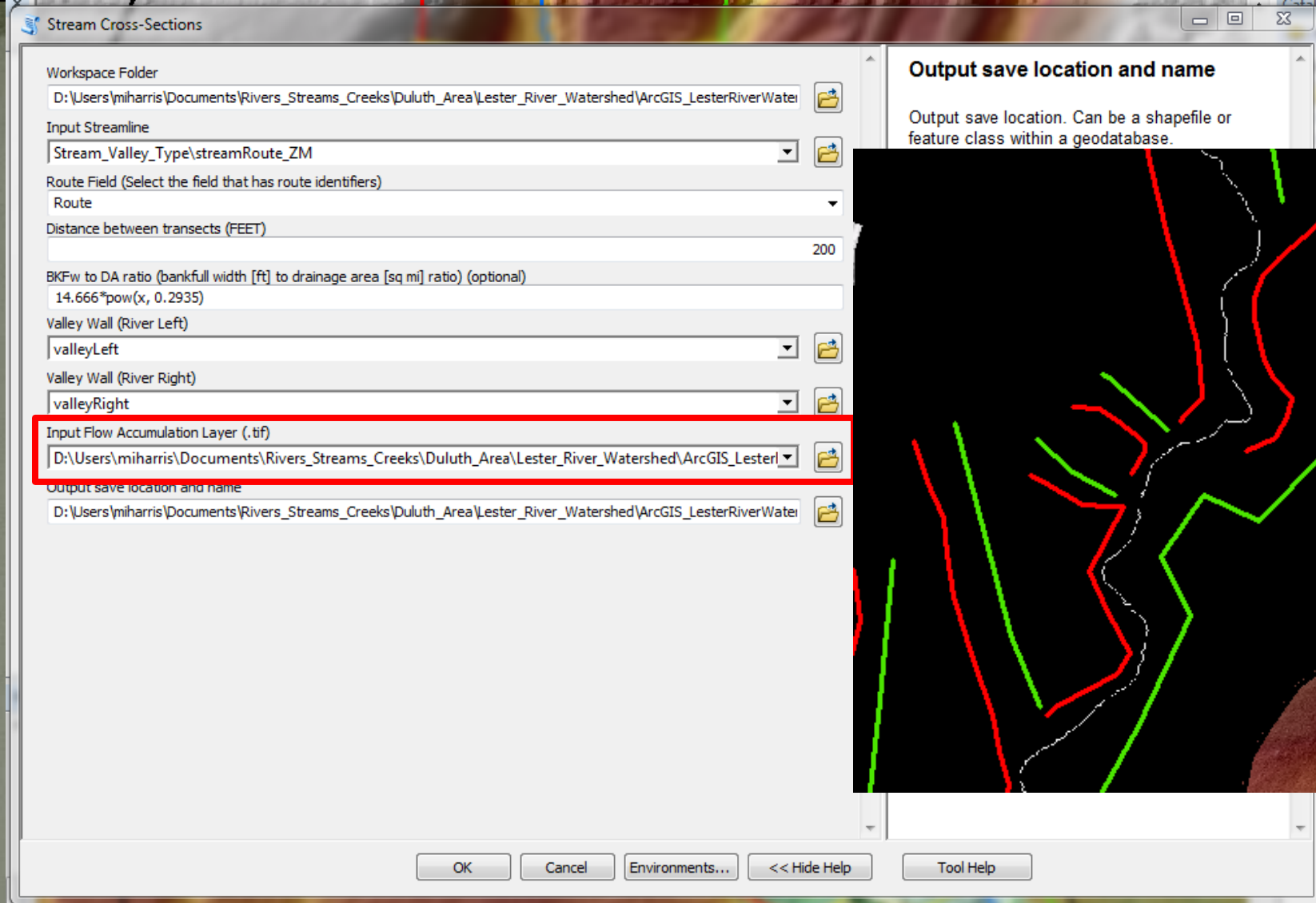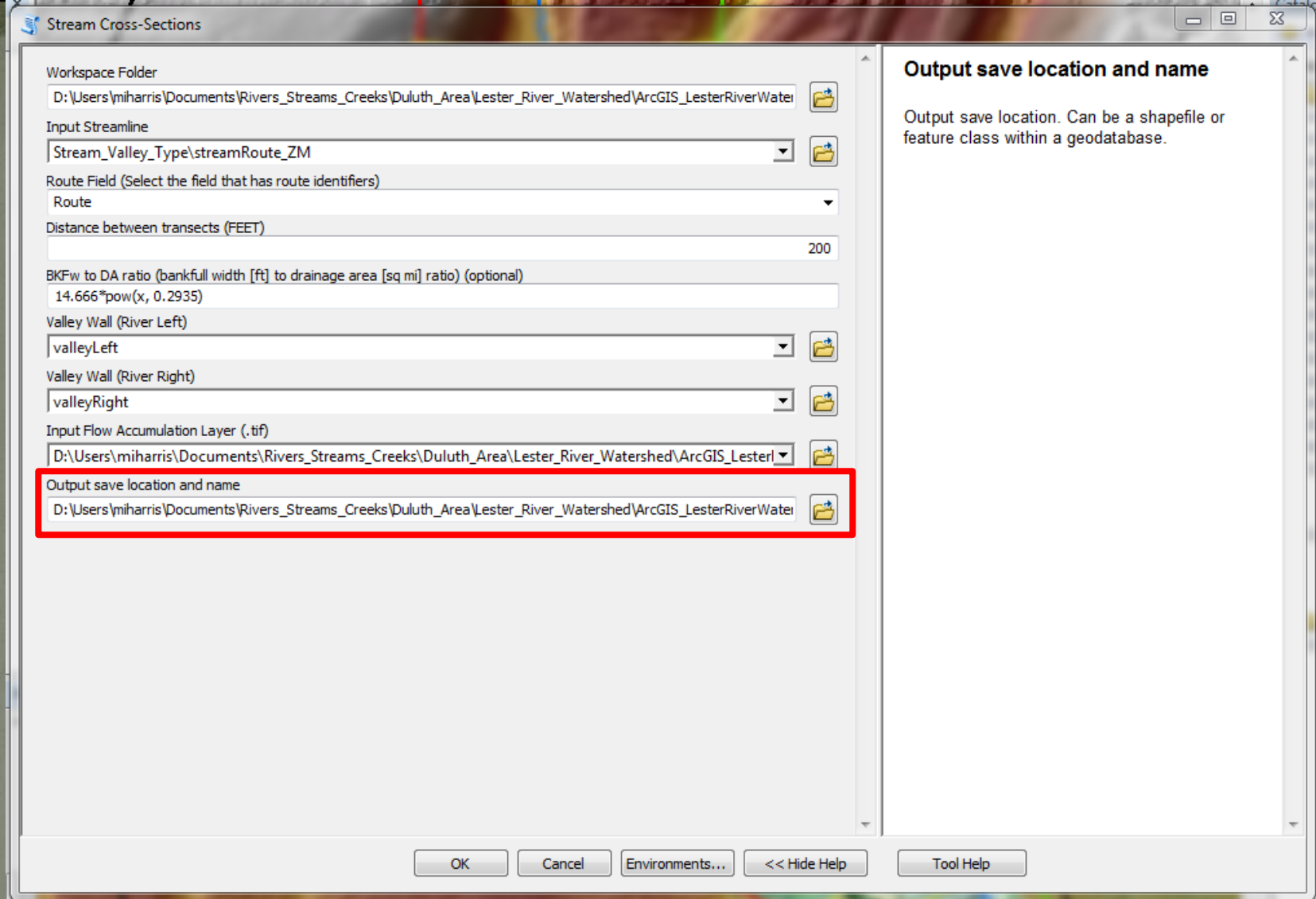- Valley wall shapefiles/feature classes. These need to be separate files from each other.
- This will need to be digitized by the user.

- Flow accumulation layer that is clipped to the extent of the watershed
  - During testing, TIF, GRID and FGDBR files worked just fine

Michael Harris
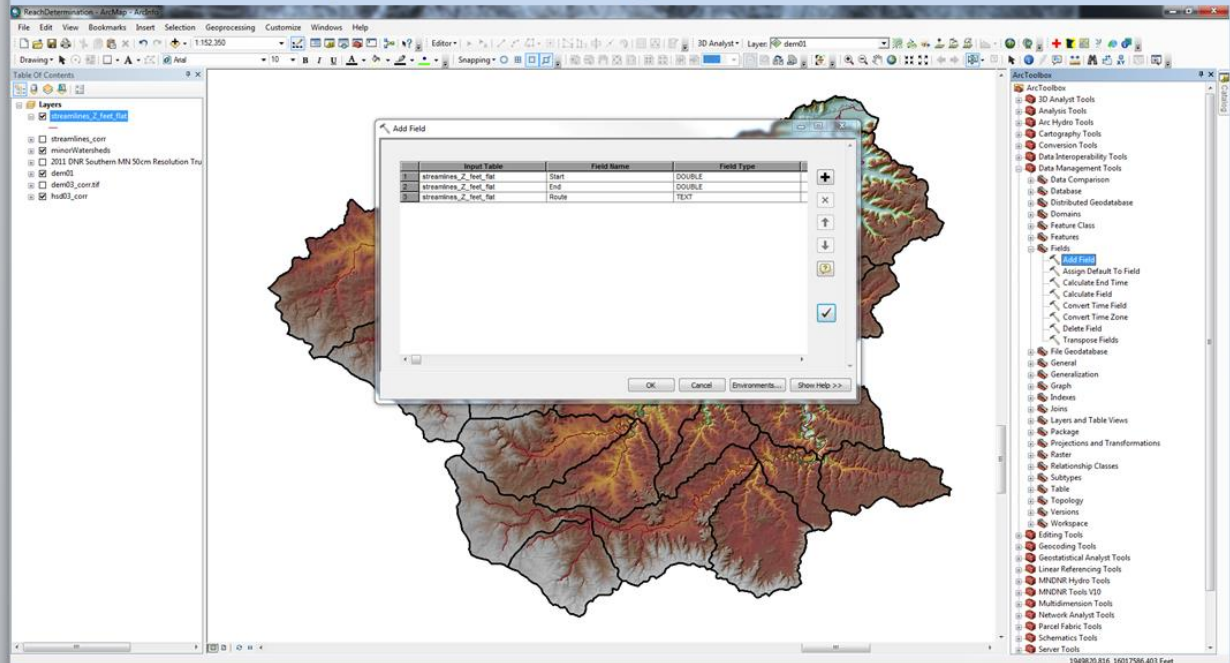
- Location where the cross-sections will be saved.
  - Shapefile or feature class
  - Cross-sections are not Z-enabled, as this step is performed using Mark's 'Classify Stream Type' tool.

Michael Harris

- There will be issues with the tool
  - Avoid making sharp cuts to the valley walls, as the tool searches for the 'nearest' valley wall
    - I digitized these valley walls quickly for testing purposes, so the end result for you may be cleaner.
  - Especially problematic at confluences of tributaries.
    - Easiest to delete all cross-sections near these confluences

Michael Harris