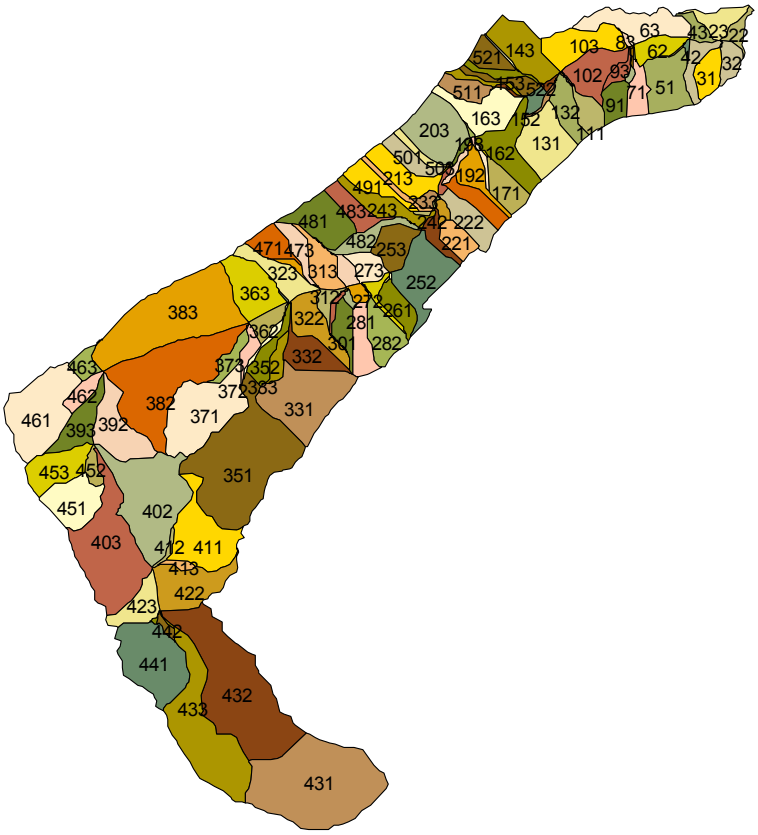

Figure 5-8. The final generation of AnnAGNPS cells used for the General Creek watershed simulations.

Stream Network.

Generated and Digitized Drainage Network. In order to ensure that the process of using TOPAGNPS produced an adequate stream network to link with the CONCEPTS model, the stream network was compared to the digitized location of the perennial and intermittent streams (Figure 5-9). Major confluences of tributaries and the main channel were examined along with the physical location of the channels as observed using the DOQQs. The generated stream network reflected the digitized stream network in most cases.

Location of Tributary Confluences Within the Main Channel. The confluences of tributaries generated by TOPAGNPS that flow into the main channel of General Creek were determined from visual inspection of the generated stream network (Figure 5-10). Each tributary outlet reach number identifier assigned from TOPAGNPS was designated as a point that AnnAGNPS would produce information needed by CONCEPTS for each runoff event that occurred between January 1, 1976 and December 31, 2002. The tributary confluence was then assigned as inflow to the main channel as simulated by CONCEPTS with the tributary information from AnnAGNPS produced in a single file.

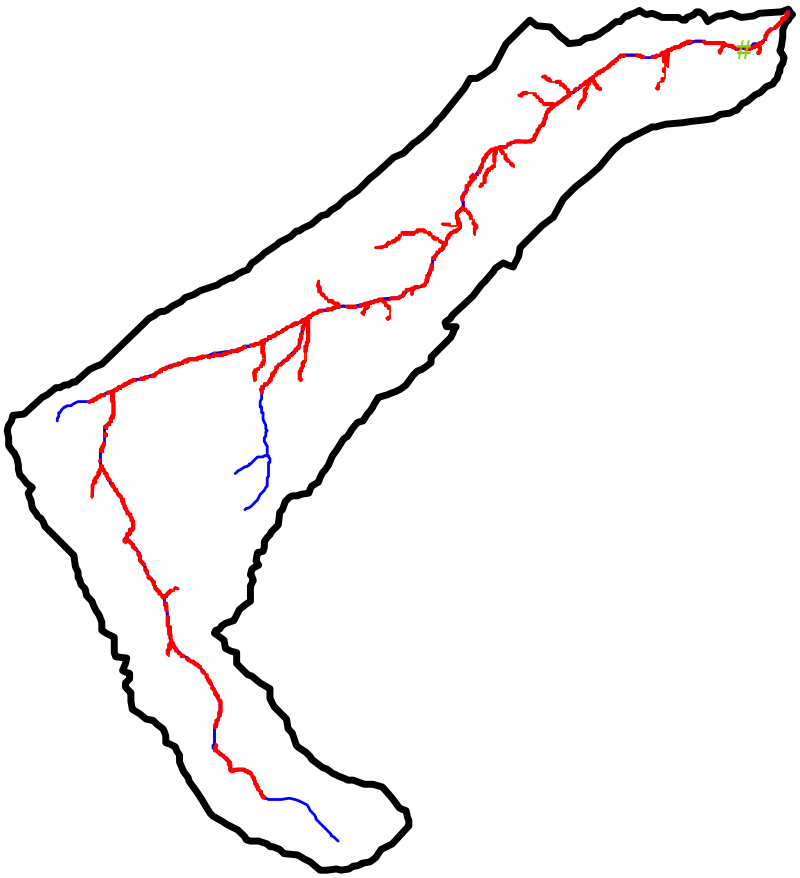

Figure 5-9. The generated stream network (red) in comparison with the digitized streams (blue) with the General Creek watershed boundary (black), plus the location of the gage represented by the green dot at the top of the figure.

Upper Truckee River Watershed

Drainage Boundary. A determination of the drainage boundary for Upper Truckee River watershed follows similar procedures as used for General Creek watershed (Figure 5-11). For Upper Truckee River watershed the outlet coincides with the mouth of Upper Truckee River as it flows into Lake Tahoe. A modification of the clipped DEM was made based on the location of the digitized perennial and intermittent stream locations.

Subdrainage Areas: AnnAGNPS Cells. The determination of the subdrainage areas of the Upper Truckee River watershed into AnnAGNPS cells was performed based on the spatial variation of landuse and the location of the digitized stream network. The watershed was subdivided into a significant number of cells in order to reflect landuse. The initial subdivision produced 73 AnnAGNPS cells distributed throughout the watershed (Figure 5-12). Further TOPAGNPS delineation provided the subdivision shown in Figure 5-13. The final subdivision of Upper Truckee River watershed with TOPAGNPS produced 264 AnnAGNPS cells and an associated stream network of 107 reaches (Figure 5-14; Table 5-2).

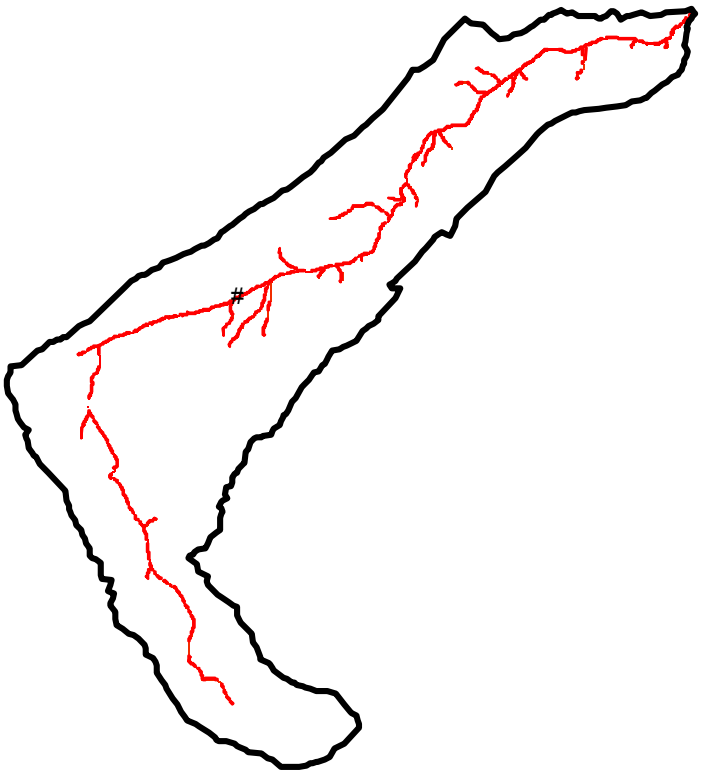

Figure 5-10. The TOPAGNPS generated stream network for General Creek with the main channel simulated by CONCEPTS starting at the black dot and continuing to the outlet.

Figure 5-11. The Upper Truckee River generated watershed boundary (black line) and digitized boundary (shaded area).

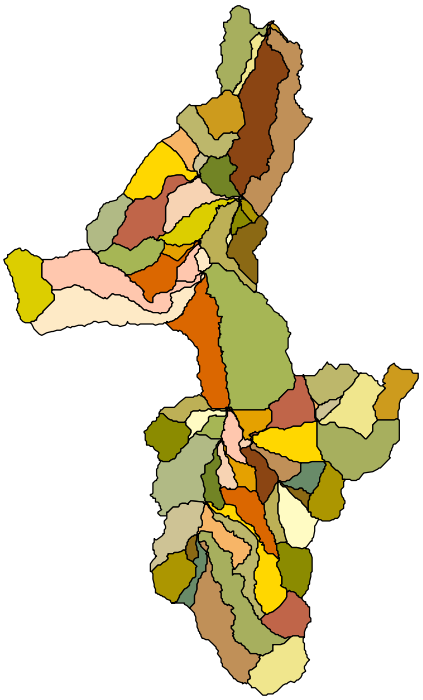

Figure 5-12. The first trial of the generation of AnnAGNPS cells for Upper Truckee River watershed.