

Soil Conservation Service (SCS) Runoff Curve Numbers Associated with Watershed Characteristics

The Soil Conservation Service (SCS) runoff curve number (CN) is a key factor in obtaining an accurate prediction of runoff and sediment yields. Curve numbers were selected based on the National Engineering Handbook, Section 4 (USDA, Soil Conservation Service, 1985). The SCS CN's used in the model simulation are listed in Table 5-4 and are based on typical values used by NRCS for the land cover classes present in the watersheds. Additional curve numbers were selected for airport and golf conditions to represent those scenarios in the simulation. Each cell assumes that the area within the cell is defined homogeneously throughout the cell.

Table 5-4. SCS curve numbers for the Lake Tahoe Basin watershed simulations by land cover class.

Land Cover Class	Curve Number			
	Hydrologic soil group			
	A	B	C	D
BAR, Fallow Bare soil	77	86	91	94
HEB, Grassy fields, Fair	32	43	60	70
SHB, Shrubs Poor	36	50	68	76
CON, Conifer Forest Good	30	55	70	77
AIRPORT, Some paved roads	83	89	92	93
GOLF	89	92	94	95
URB, Urban, Commercial, and Business	89	92	94	95

5.2.6 Soil Properties

Within the Lake Tahoe Basin there are 73 separate soil types identified from the soil GIS layer. The dominant soils are sandy to sandy loam with many areas defined entirely as rock outcrops. Most of the soils information was derived from the NRCS Soils 5 database. Input parameters that had no impact on soil erosion were set using default parameters. These included parameters such as the soil initial organic nitrogen ratio, which was set based on AnnAGNPS guidelines as 500 PPM for the top layer and 50 PPM for the subsequent layers. The soil assigned to each AnnAGNPS cell was based on the predominant soil type within each AnnAGNPS cell.

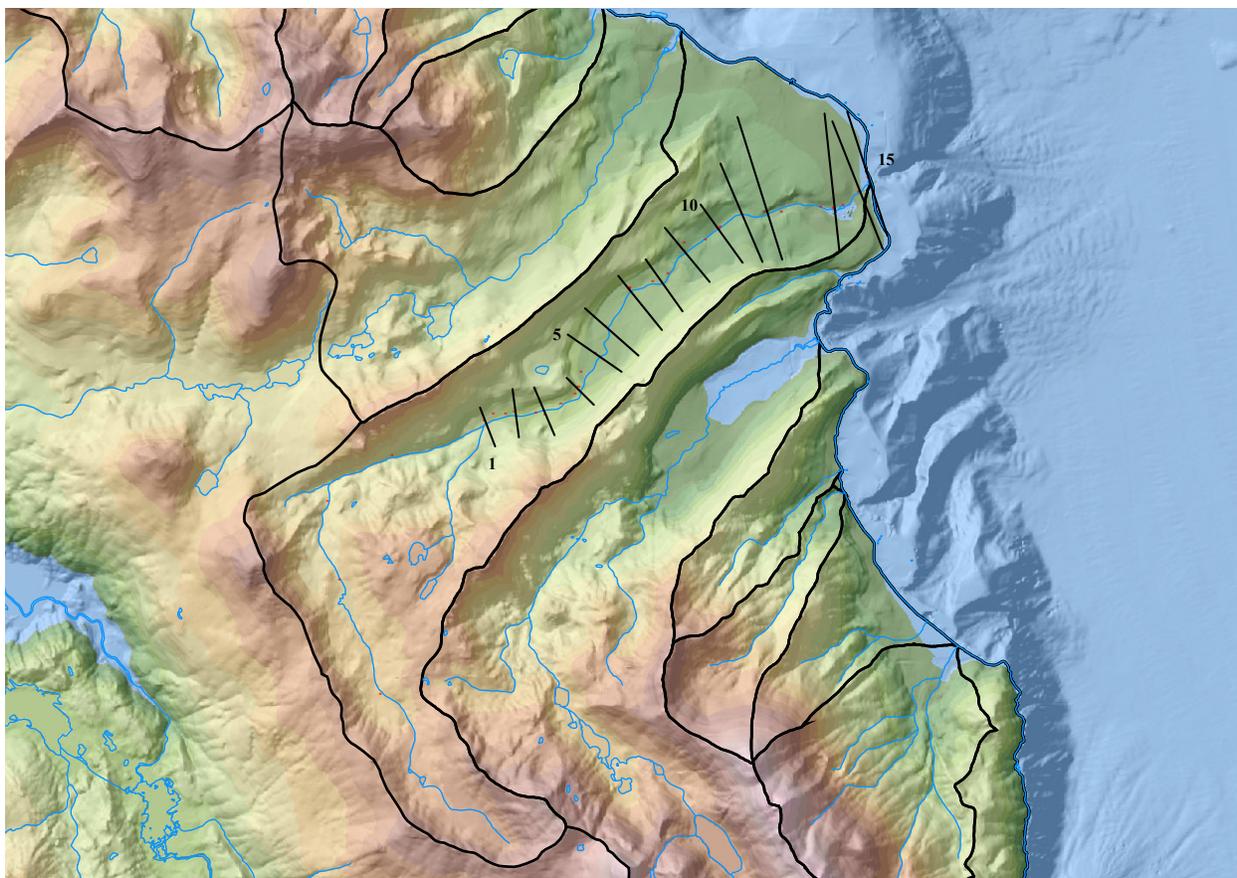


Figure 5-28. Modeling reach and cross section locations along General Creek. Cross section transects are shown in black.

5.3 CONCEPTS Model Setup

5.3.1 Modeling Reach and Parameters

General Creek

Modeling Reach. The modeling reach of General Creek extends from the mouth of the channel (river km 0.01) to river km 6.80 (Figure 5-28). The water and sediment loadings into the modeling reach are provided by the watershed model AnnAGNPS. The modeling reach is composed of 15 cross sections (Figure 5-28). These cross sections are hereafter referred to as cross sections “1” through “15,” where “1” is the most upstream cross section and “15” is the most downstream cross section. The cross sections were surveyed during the data collection campaign in the fall of 2002 (see section 2.2), except for cross section 8. Cross section 8 is cross section “85” surveyed in 1983 by Nolan and Hill (1991). Cross sections 2, 4, 6, and 13 correspond to cross sections “55,” “60,” “70,” and “90” surveyed in 1983 by Nolan and Hill (1991). The latter cross sections will be hereafter referred to as NH55, NH60, NH70, and NH90.