Stop 3-2 North Fork Feather River, Yellow Creek

Table 3.2a. Temporal Variation of Incision Rates from Mean Ages of Incised Datums (within SNFFS)

Unit	Mean Height Above River (m)	Mean Age (Ma)	±	Maximum Age of Interval (Ma)	Minimum Age of Interval (Ma)	Amount of Incision in Interval (m)	Mean Incision Rate of Interval (mm/yr)	±	Incision Rate of Interval as 35% of Total (mm/yr)	Percent of Incision by Interval
Mehrten Fm	528.75	9.78	0.46							
9.78 to 2.94 Ma				**7.37**	**6.31**	**86.35**	**0.01**	**0.00**	**0.04**	**16.3**
Yana Fm	442.40	2.94	0.07							
2.94 to 2.08 Ma				**1.00**	**0.72**	**85.40**	**0.10**	**0.02**	**0.29**	**16.2**
Dutch Hill[2]	357.00	2.08	0.07							
2.08 to 1.06 Ma				**1.13**	**0.91**	**107.47**	**0.11**	**0.01**	**0.30**	**20.3**
Rock Ck	249.53	1.06	0.04							
1.06 to 0.61 Ma				**0.62**	**0.28**	**141.34**	**0.37**	**0.14**	**1.05**	**26.7**
Warner Valley	108.19	0.61	0.13							
0.61 to 0.39 Ma				**0.39**	**0.05**	**57.19**	**0.65**	**0.50**	**1.84**	**10.8**
Westwood[3,4]	51.00	0.39	0.04							
0.39 Ma to present				**0.43**	**0.35**	**51.00**	**0.13**	**0.01**	**0.37**	**9.7**
Warner Valley	108.19	0.61	0.13							
0.61 Ma to present				**0.74**	**0.48**	**108.19**	**0.19**	**0.04**	**0.53**	**20.5**

1 These rates are calculated from remnants within the SNFFS; therefore, exposures on differentially vertically displaced fault blocks have been averaged into the mean heights above river.

2 Incision rates of Yana and Mehrten Fms. within the fault zone each equal about 35% of incision rate within the Sierran block; therefore, rates of basalt units, which are constrained to exposures within the fault zone are considered 35% of a possible total.

3 Based on a single exposure.

4 The Basalt of Westwood at Ohio Creek lies above the North Fork; however, its relationship with the Basalt of Warner Valley is complicated by the Ohio and Skinner Flat faults. Therefore, this rate may not represent an accurate estimate of temporal rate variation. The Basalt of Warner Valley represents the most robust and recent time interval and is, therefore, presented in rows below.

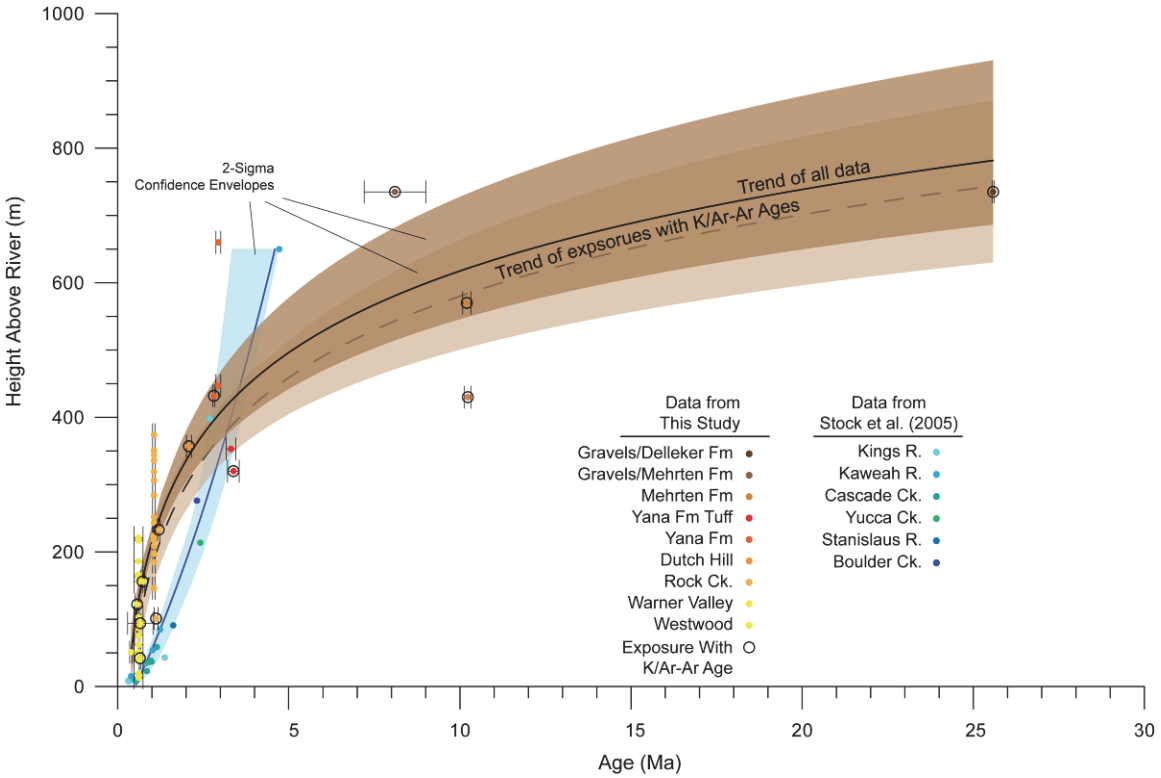

Figure 3-2e. Incision vs. age comparing the North Fork Feather River and central and southern Sierra Nevada drainages.

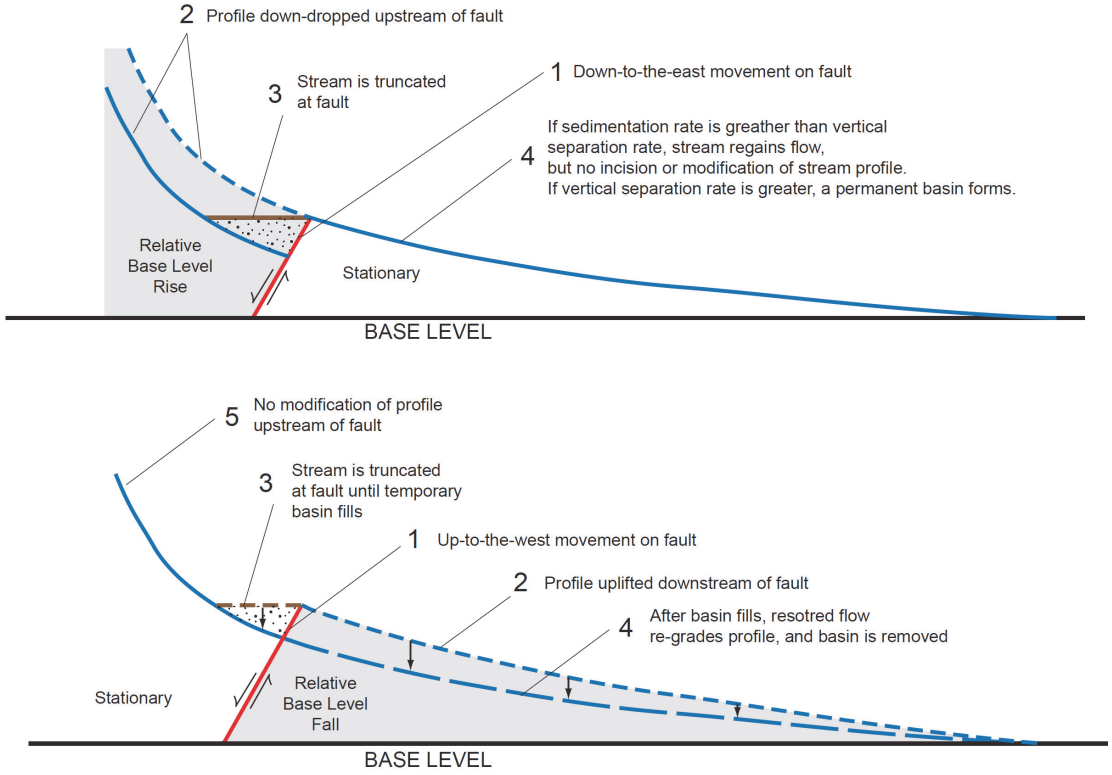

Figure 3-2f. Stream incision processes when crossing a upstream-facing normal fault scarp

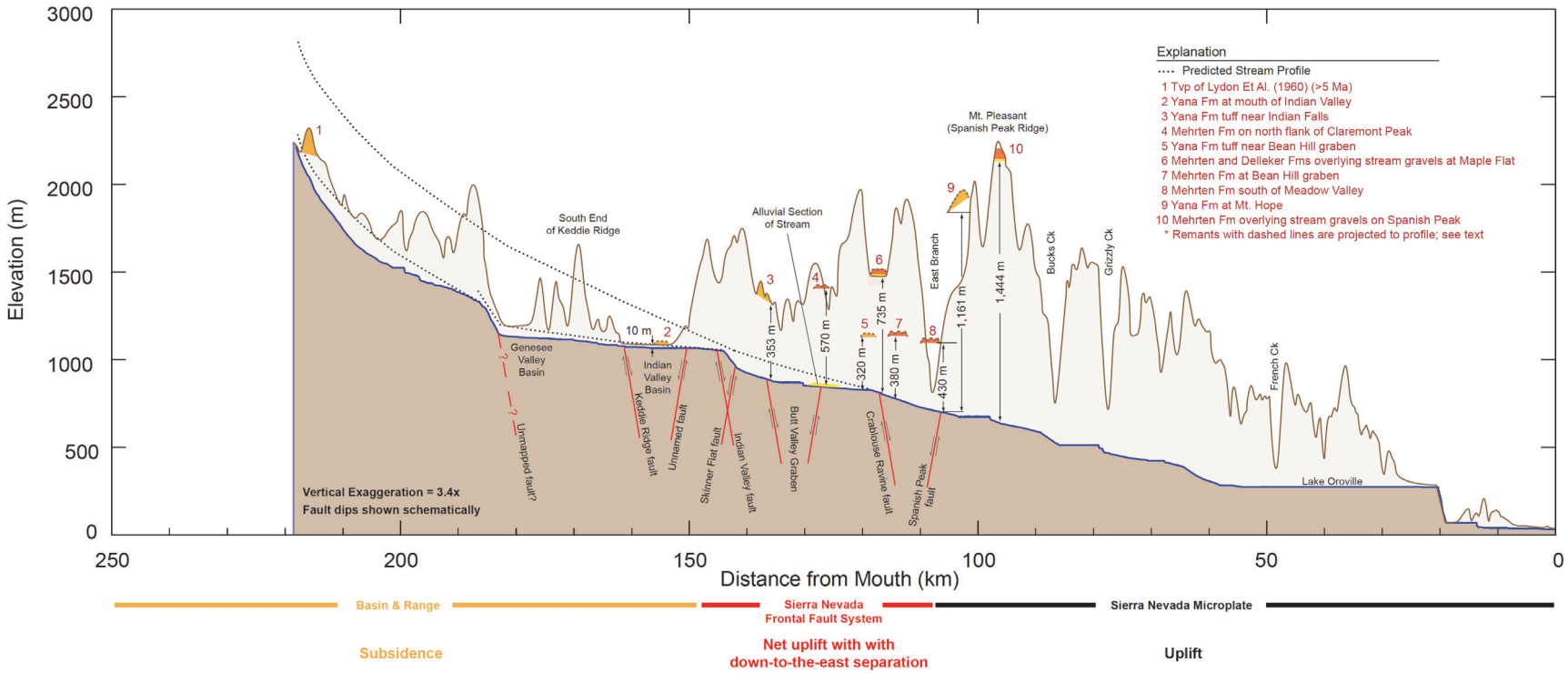

Figure 3-2g. Stream profile of Indian Creek > East Branch of the North Fork Feather River > North Fork Feather River