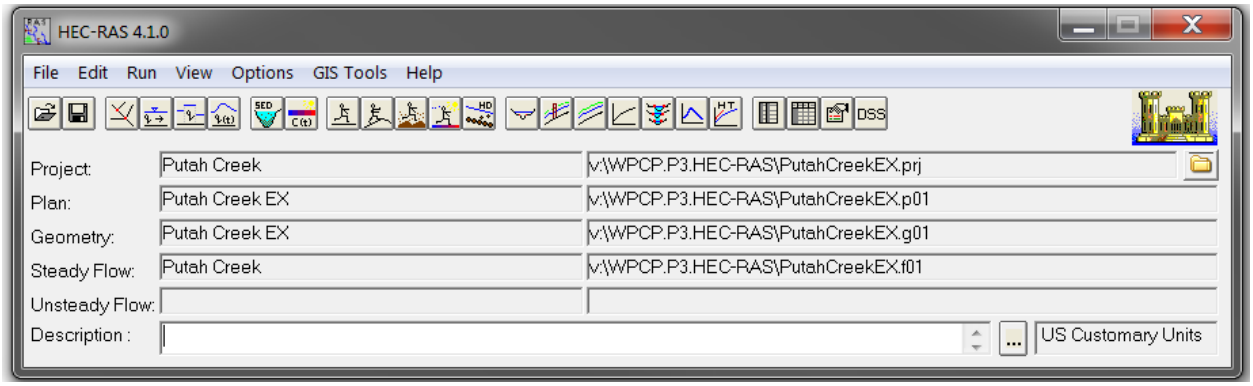
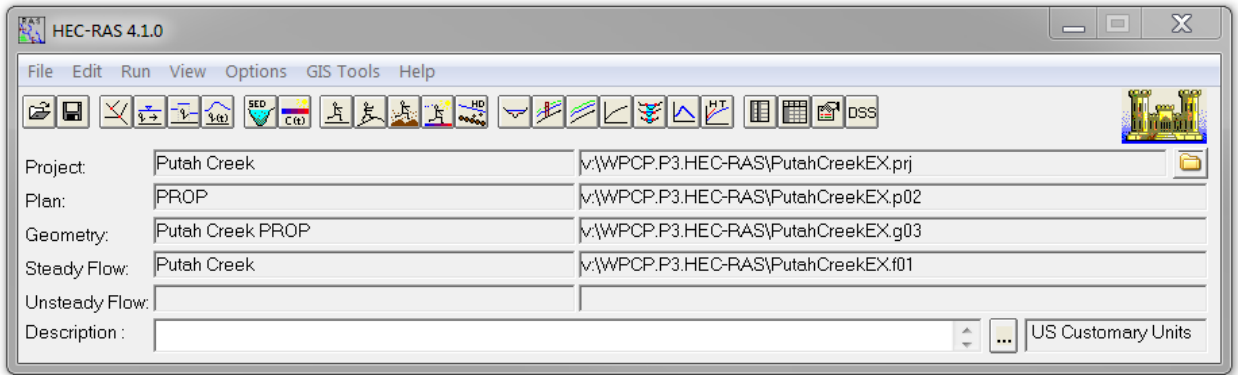
HEC-RAS Assumptions:

1. Manning's n values are based on Chow, 1959.
   a. Existing Condition
      - Main Channel 0.04 (Clean, winding, some pools and shoals)
      - Floodplains 0.07 (Medium to dense brush)
   b. Proposed Design Condition
      - Main Channel 0.04 (Clean, winding, some pools and shoals)
      - Floodplains 0.035 (Brush, high grass)
2. Downstream slope of 0.0005 estimated from topography surveys.
3. Flow is assumed to be at normal depth at the end of the model (downstream of the project area).
4. Existing condition cross-sections derived from SCWA staff total station surveys.
5. The flow rate of 1000-cfs was arbitrarily chosen. This model is not calibrated to any real data; it is simply a comparison of the existing condition to the proposed condition, so an arbitrary flow was chosen to run through both conditions to compare the effect of the proposed project.

Model Input:





Model Output:

River Station	Existing Condition WSE (ft)	Proposed Condition WSE (ft)	Difference in WSE (ft)
4654.91	112.32	111.73	0.59
4600	112.31	111.72	0.59
4500	112.3	111.71	0.59
4400	112.29	111.71	0.58
4300	112.27	111.69	0.58
4200	112.26	111.69	0.57
4100	112.25	111.68	0.57
4000	112.24	111.67	0.57
3900	112.22	111.66	0.56
3800	112.2	111.65	0.55
3700	112.18	111.64	0.54
3600	112.17	111.63	0.54
3500	112.15	111.61	0.54
3400	112.13	111.6	0.53
3300	112.13	111.6	0.53
3200	112.13	111.6	0.53
3100	112.12	111.59	0.53
3000	112.12	111.59	0.53
2900	112.12	111.59	0.53
2800	112.12	111.59	0.53
2700	112.12	111.59	0.53
2600	112.12	111.59	0.53
2500	112.12	111.58	0.54
2400	112.09	111.56	0.53
2300	112.05	111.54	0.51
2200	112.02	111.51	0.51
2100	112.01	111.5	0.51
2000	111.98	111.48	0.5
1900	111.96	111.45	0.51
1800	111.94	111.44	0.5
1700	111.93	111.41	0.52
1600	111.88	111.38	0.5
1500	111.85	111.36	0.49
1400	111.82	111.34	0.48
1300	111.76	111.29	0.47
1200	111.74	111.27	0.47
1100	111.67	111.21	0.46
1000	111.63	111.17	0.46
900	111.61	111.16	0.45
800	111.51	111.09	0.42
700	111.47	111.05	0.42
600	111.43	111.02	0.41
500	111.32	110.94	0.38
400	111.24	110.86	0.38
300	111.13	110.73	0.4
200	111.09	110.69	0.4
100	110.97	110.55	0.42
0	110.95	110.53	0.42

Conclusions:

The last column of the model output table shows that the difference between water surface elevation decreases throughout the project due to the implementation of the proposed condition. The combination of grading and replanting the floodplain with native grasses will not decrease floodwater conveyance in this stretch of Putah Creek.