

BALD HEAD ISLAND SETTLEMENT MONITORING SURVEYS
REPORT 4
SEPTEMBER 2005

Introduction

The 4th set of monitoring surveys for the Settlement Agreement between the Village of Bald Head Island and the United States Army Corps of Engineers were taken in September 2005. The criteria to be used in examining the surveys is to be a continuous passage through Smith Island Channel, Baldhead Shoal Channel Reach 1 and Baldhead Shoal Channel Reach 2 with a minimum bottom width of 500 feet at a depth of -42 feet mean lower low water (mllw).

Data

The 3rd set of monitoring surveys taken in July 2005 is displayed in Figure 1 and is labeled July 2005 Surveys. Figure 2 is a plot of surveys taken in September 2005 and Figure 3 is a difference plot between the July and September surveys.

A plot for Smith Island Channel of the navigable widths at a depth of -42 feet mllw (navigable depth) is shown in Figure 4. MLLW is 2 inches lower than mlw at Bald Head Island. Plots of the minimum channel cross sections at stations 4+00 and 13+00 are shown in Figures 5 and 6. The baselines for the cross section plots are shown in Figure 1.

A plot for Baldhead Shoal Channel Reach 1 of the navigable widths at a depth of -42 feet mllw is contained in Figure 7. A plot of the minimum cross section in the vicinity of the spit formation at station 18+00 is shown in Figure 8. Plots of the minimum channel cross sections in the vicinity of the spit formation at stations 18+00 and 19+00 are shown in Figures 8 and 9.

A plot for Baldhead Shoal Channel Reach 2 of the navigable widths at a depth of -42 feet mllw is contained in figure 10. Plots of the minimum channel cross sections at stations 45+00, 46+00, and 47+00 are shown in figures 11, 12, and 13.

Conclusion

The minimum navigable width at a depth of -42 feet mllw exceeds 500 feet in all three channels.

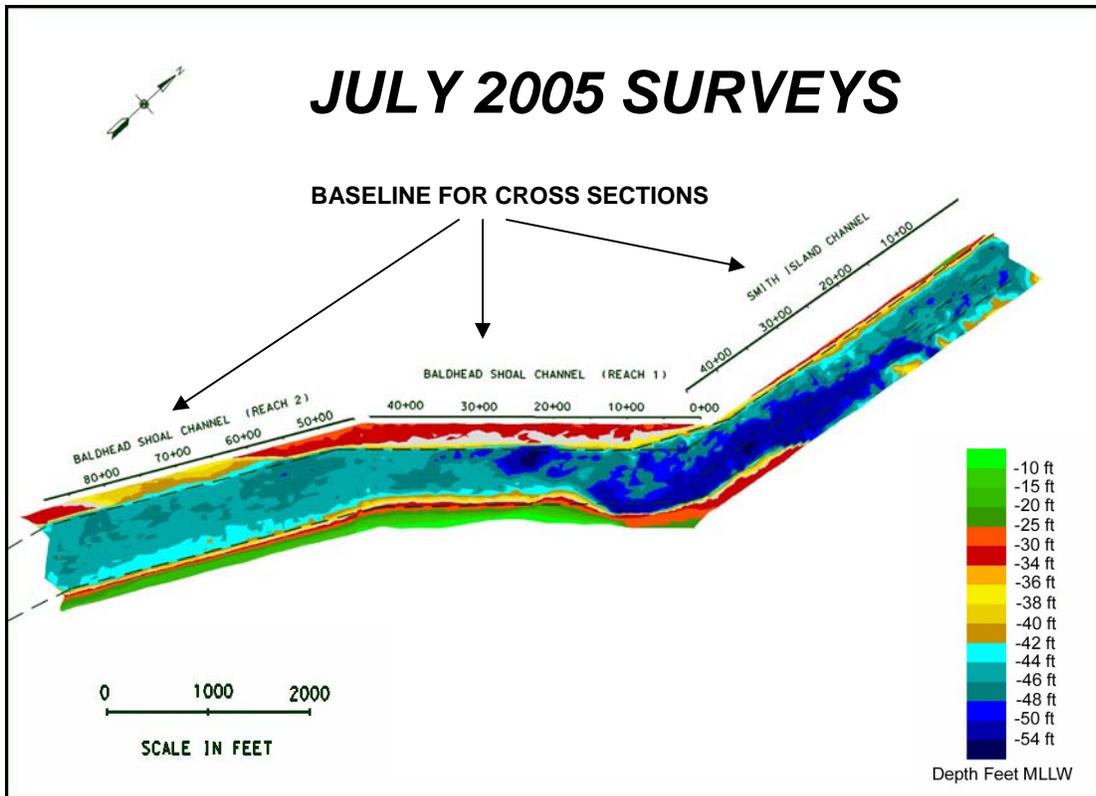


Figure 1 July 2005 Surveys

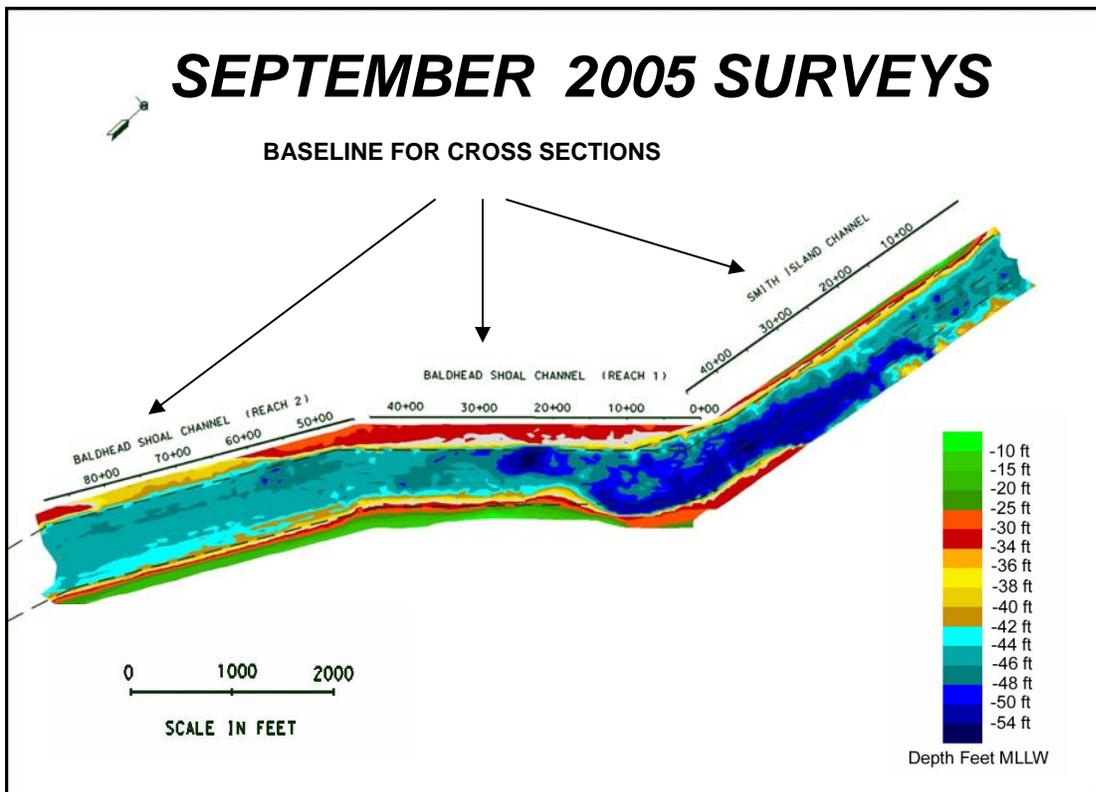


Figure 2 September 2005 Surveys

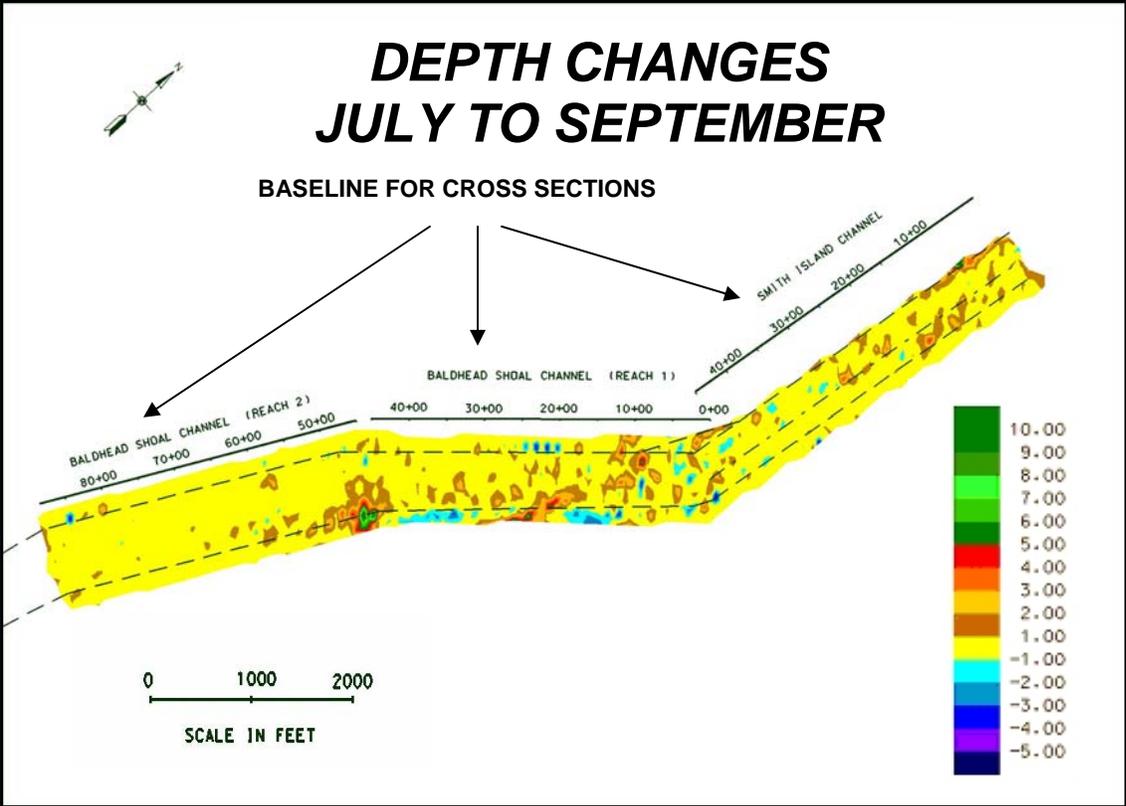


Figure 3 July to September Depth Changes

SMITH ISLAND CHANNEL NAVIGABLE WIDTHS

■ Jan-05 ■ Mar-05 ■ May-05
■ Jul-05 ■ Sep-05

Navigable widths are measured at -42 ft mllw

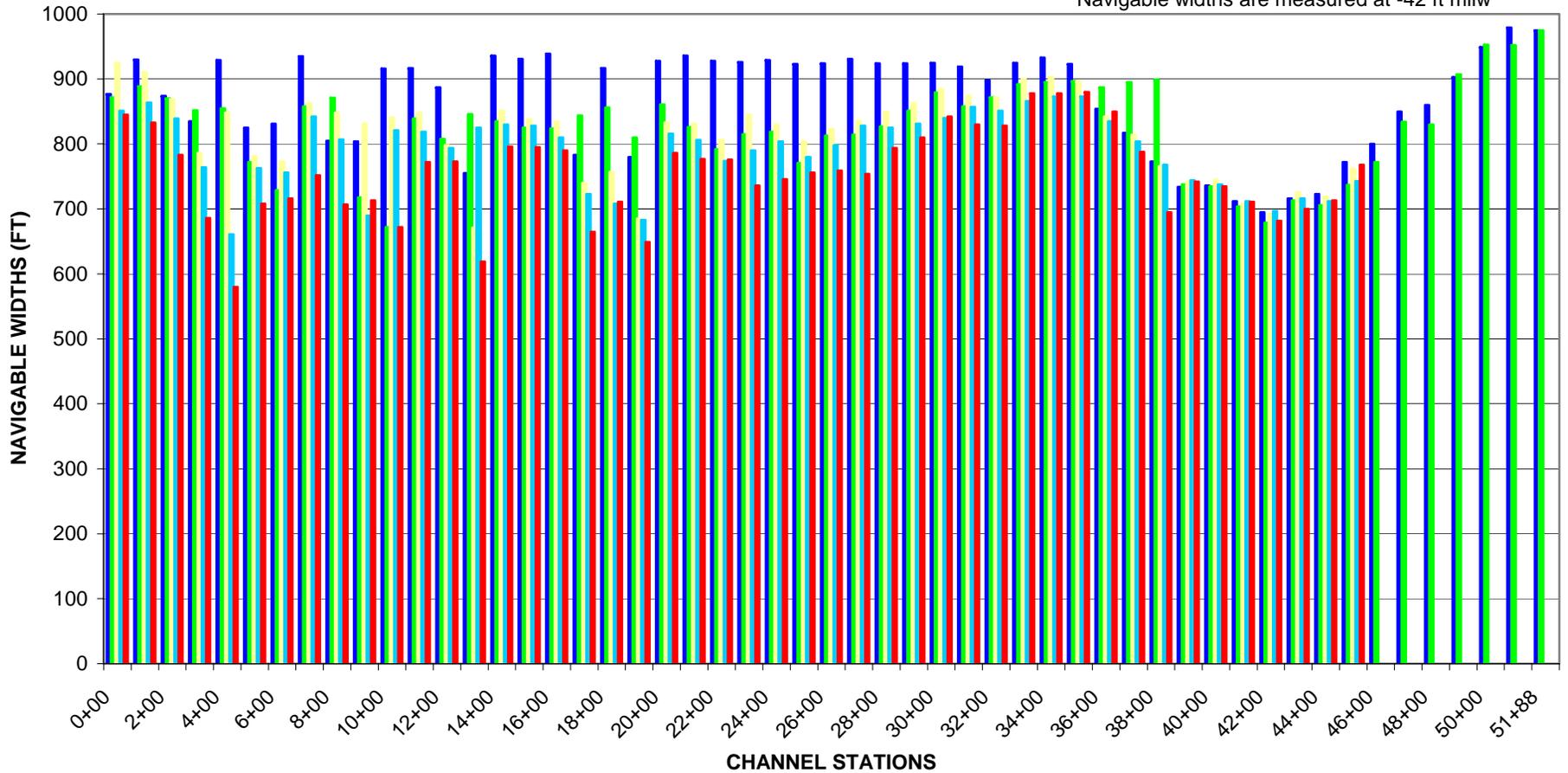


Figure 4 Smith Island Channel Navigable Widths

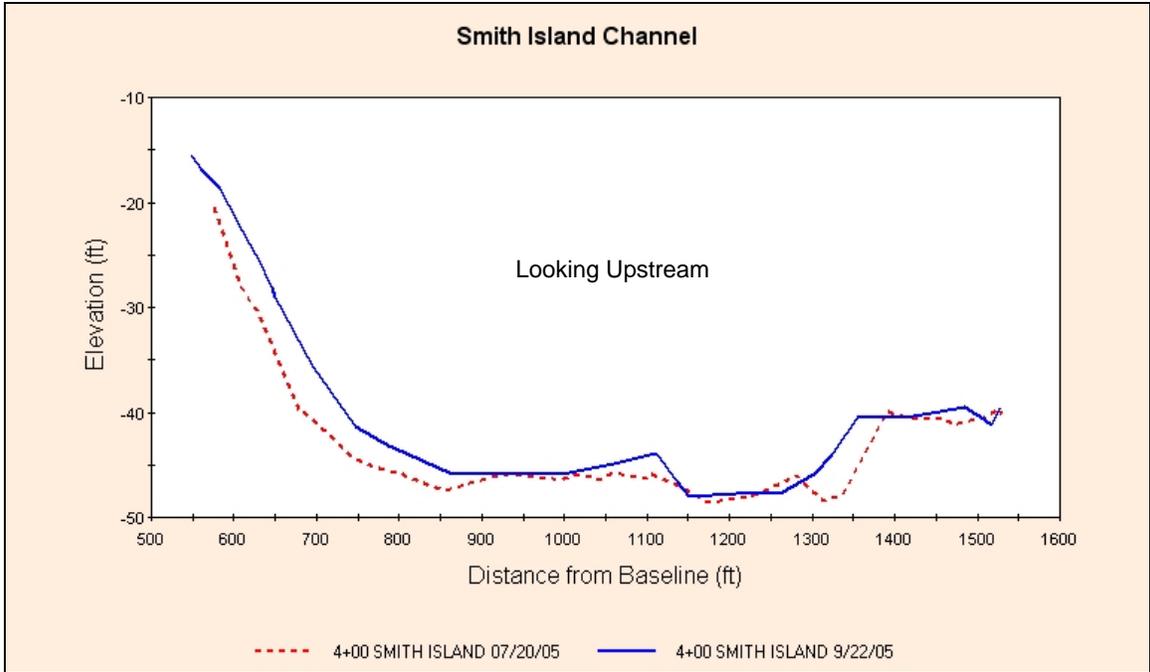


Figure 5 Smith Island Channel Station 4+00

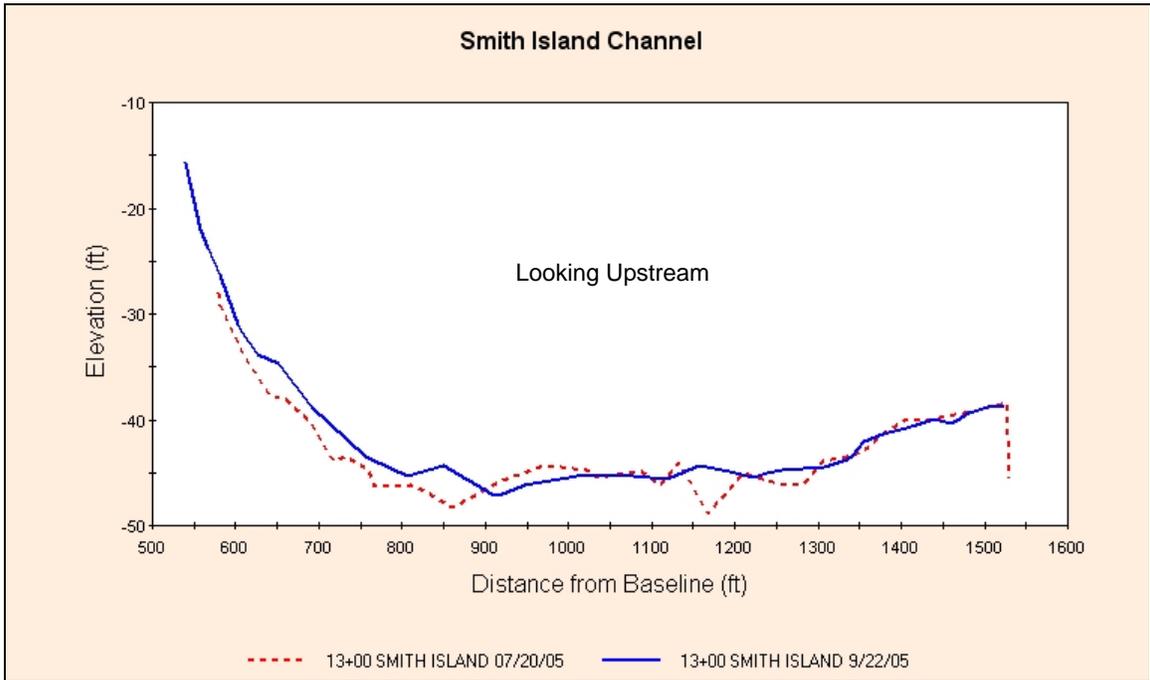


Figure 6 Smith Island Channel Station 13+00

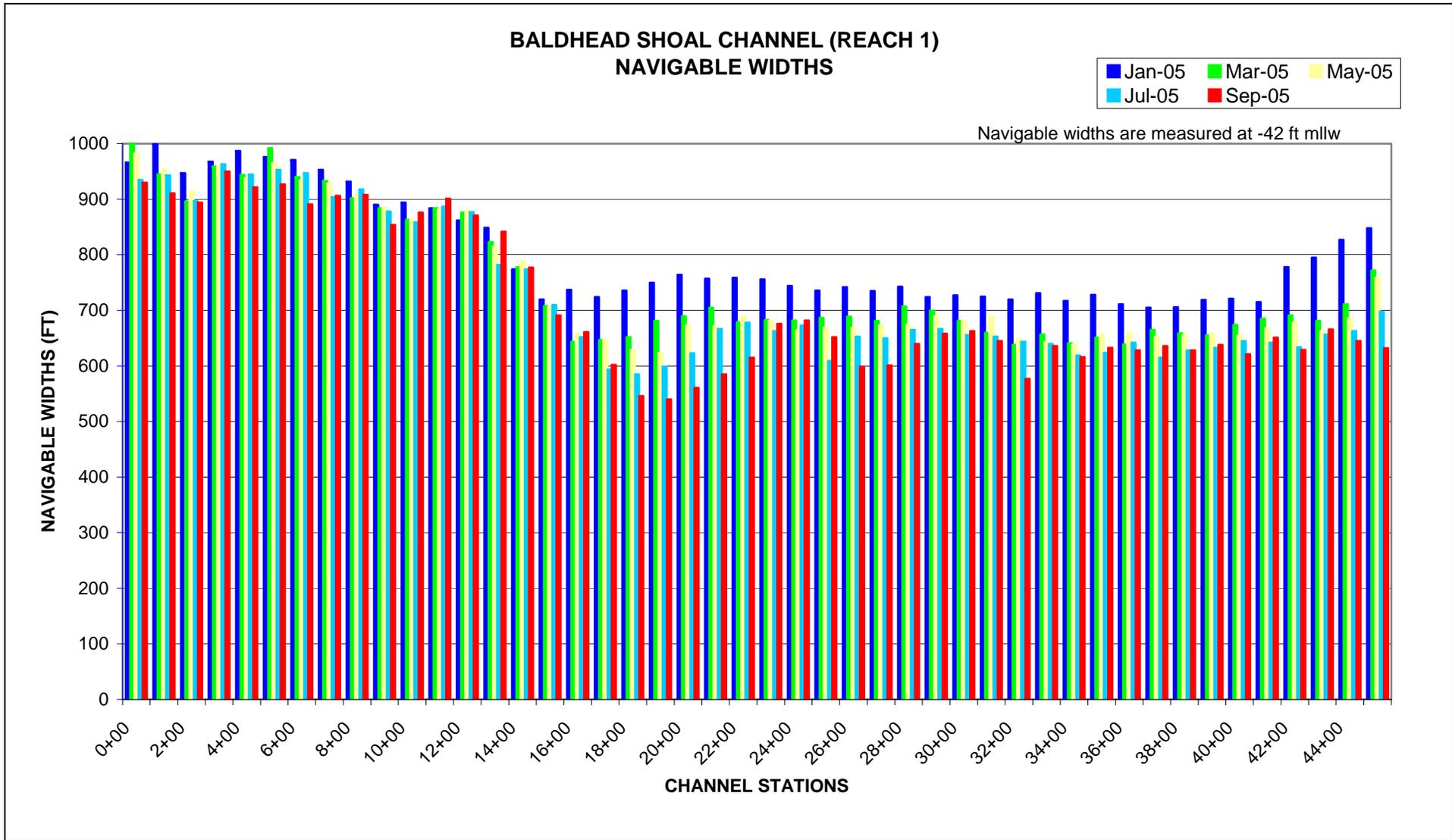


Figure 7 Baldhead Shoal Reach 1 Navigable Widths

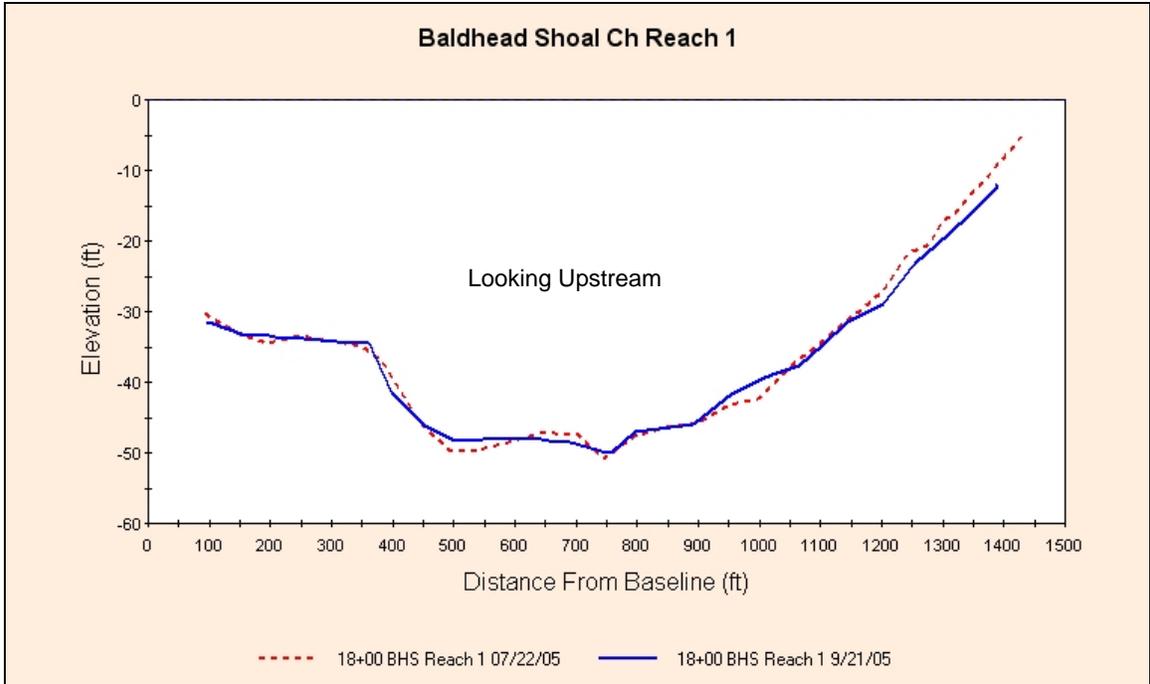


Figure 8 Baldhead Shoal Station 18+00

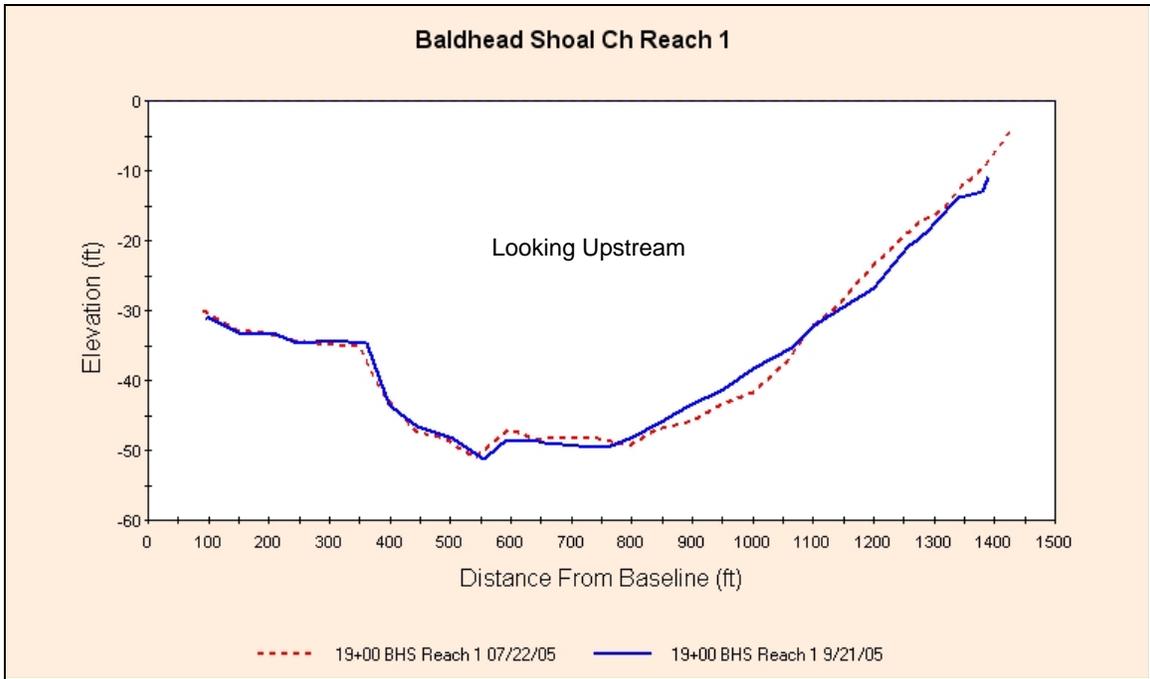


Figure 9 Baldhead Shoal Station 19+00

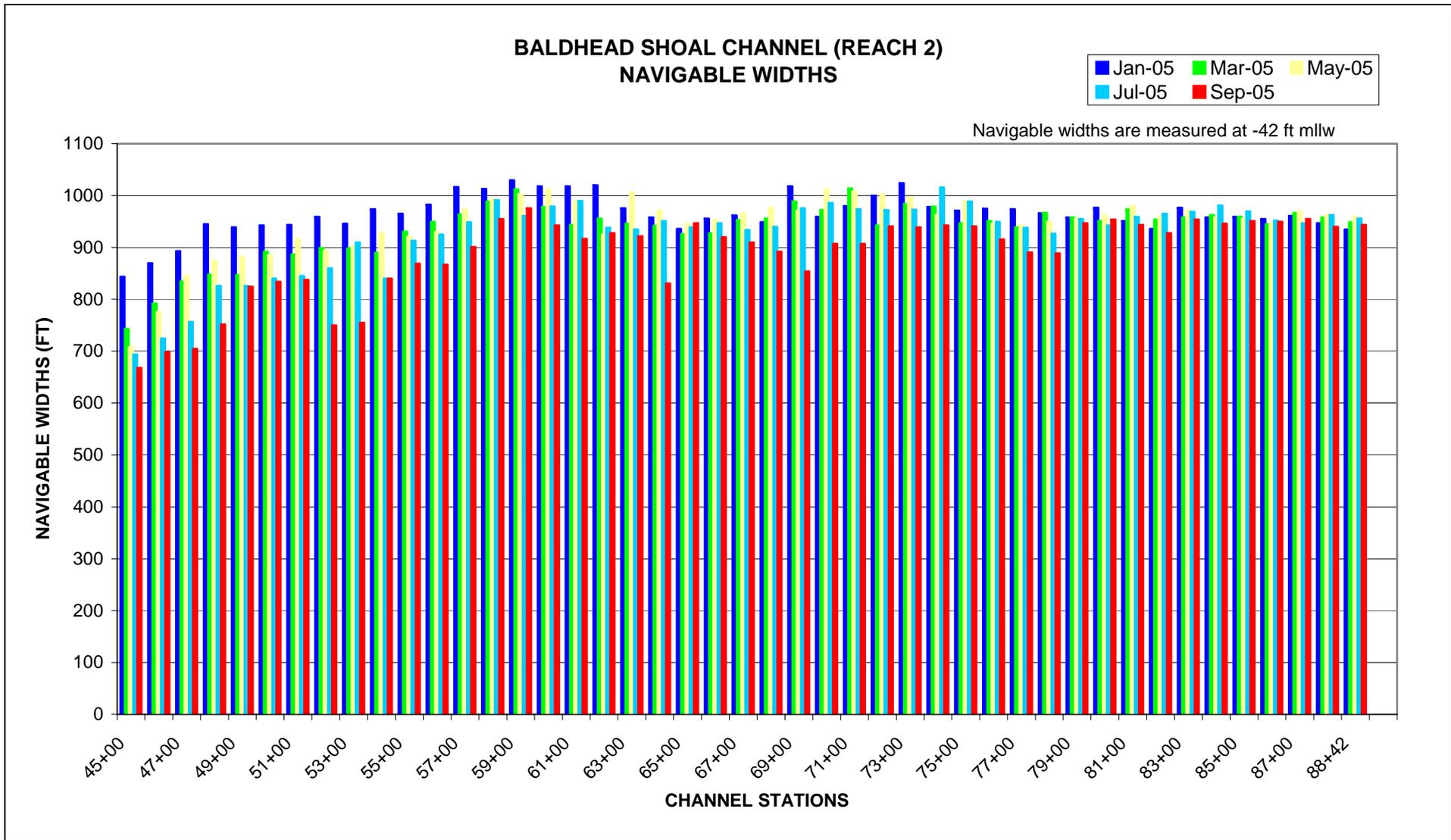


Figure 10 Baldhead Shoal Channel Reach 2 Navigable Widths

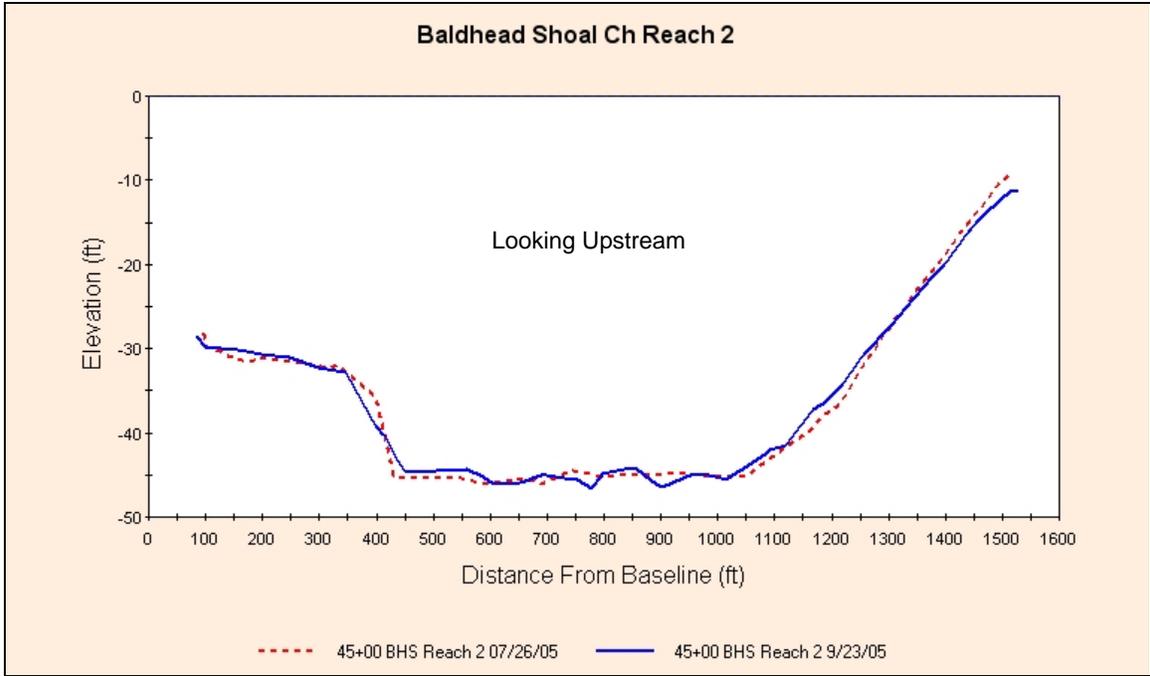


Figure 11 Baldhead Shoal Station 45+00

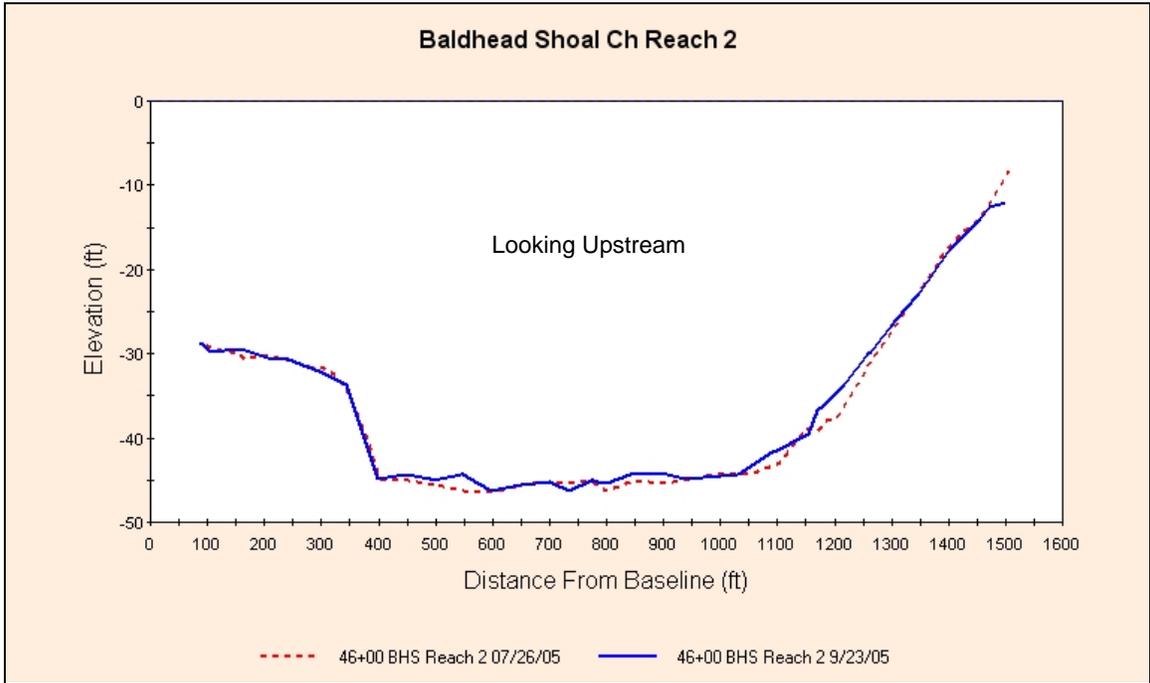


Figure 12 Baldhead Shoal Station 46+00

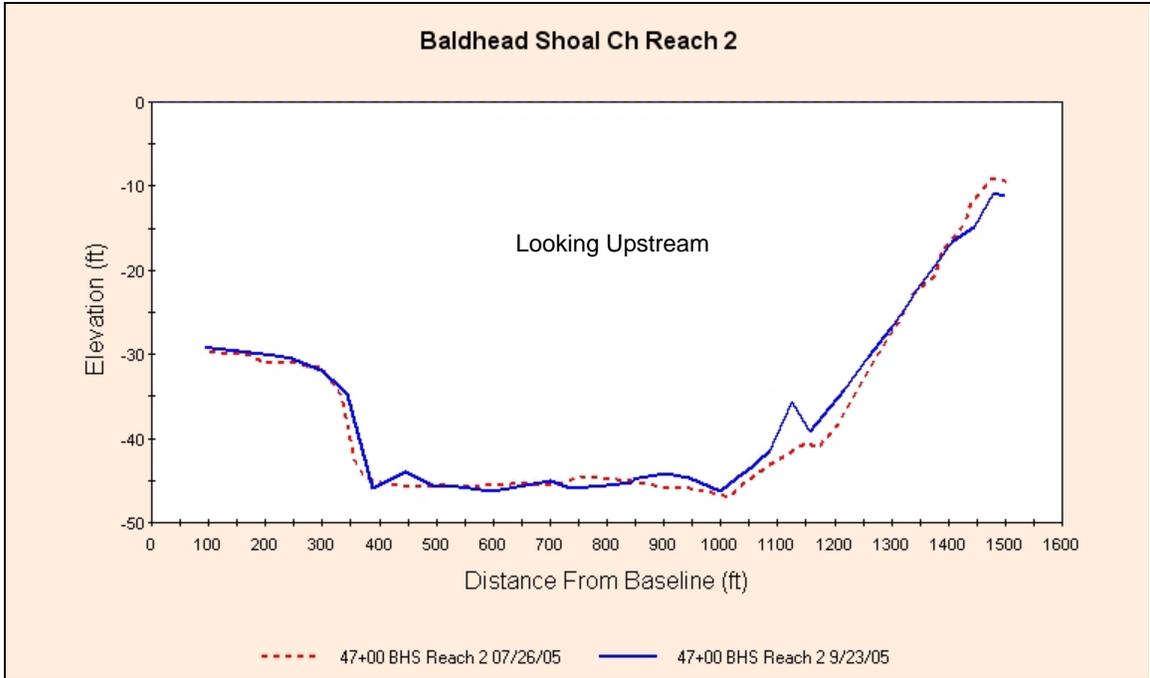


Figure 13 Baldhead Shoal Station 47+00