

**Q. How much more rapidly would water levels drop to the top of spillway or 6” above top of spillway with any of the 4 alternatives in the 1999 COE report as compared to the current Lower Gar outlet configuration? How much does the road impede the flow of water out of Lower Gar?**

*A. The 1999 COE report evaluated the period of record inflows routed through the existing outlet as well as each of the 5 alternatives evaluated. Figure 1 of the 1999 COE report demonstrates the results of this analysis in terms of the duration of flooding at any given elevation. The 110’ bridge with downstream channel improvements demonstrates the greatest reduction in duration of flooding. Under current conditions, an average year would see water levels at or above the spillway approximately 197 days per year; the maximum reduction in this level would be less than 1 day per year on average. Likewise, for flows 6 inches above the spillway, lake levels would be at or above this level an average of 93 days per year; the maximum reduction in duration be less than 1 day as well. At 12 inches or more above the spillway, the current average of 31 days per year would be reduced by fewer than 2 days per year. Much of this reduction is due to high water events being drawn down more rapidly rather than a reduction in duration each year – for example, if an event occurred 5 times in 100 years with water drawn down to spillway level an average of 15 days faster each time, that would amount to 75 days per 100 years, or 0.75 days per year on average.*

*Figure 54 of the 1997 COE report shows how much the current road impedes flow out of Lower Gar. At lake levels 12 inches above the spillway, the water level upstream of the road is only 0.03-feet higher, or a little over 1/4-inch, than downstream of the road. At lake levels 18 inches over the spillway, the difference in water surface across the road is only 0.1-feet, or just under 1 1/4-inches. It can be inferred that the spillway controls water levels on the lake up to 12 inches or so above the spillway, with control shifting to the road at higher levels. Heavy vegetative growth (i.e. cattails) in the channel between the spillway and road may create as much or more impediment to flow than the road at lower lake levels.*