

times raise the river to a height of near 30 feet above the level of low water. In all cases where it was deemed necessary, for security against these two forms of resistance, the earth has been removed, and an artificial bed and bank have been substituted, composed of a material which will resist filtration, and presenting an exterior protection, consisting chiefly of rocks, taken when necessary, from the interminable ledges along the northern bank of the canal, sufficient to resist the force of the waters of the river at the time of its highest freshets. Since the advance of the works to their present state, a freshet has occurred, viz: in the Summer of 1842, of greater height than any flood that has been known within a period of more than 30 years. This afforded a favorable test of the sufficiency of the precautions which had been taken, in the planning of the work. In all places where the works were completed, they were found to be fully adequate to resist the inroads of the flood, with a margin to spare, against even an increase of the volume of water.

The whole of this division of the canal, of 50 miles in length, from Cumberland to Dam No. 6, is to be fed from the basin at its head. The whole length must of course be opened for use, at one time. For the purpose of facilitating a simultaneous completion of all parts of it, the heavier portions of the work were undertaken first. The easier sections are for the greater part untouched. These consist merely of excavation through the bottom lands, which occur to a considerable extent along some portions of the valley of the Potomac, as it widens, on approaching its head branches. The whole country in fact, for a distance of 20 or 30 miles, measured by the widenings of the river, below Cumberland, presents a much less wild appearance, in consequence of its opening into a wide basin, especially after passing the south branch of the Potomac. Along this valley, on both sides of the river, as you approach the base of the Alleghanies, there are extensive meadows, and tillage lands, which afford excellent crops of wheat. The general aspect of the country along this distance, is not unlike that of the valley of Connecticut river, in some parts of Hampshire and Franklin counties. It has consequently a far more attractive appearance, as a country inviting cultivation, and habitation, than the regions below. Considerable portions of the canal are in consequence not crowded so closely upon the ledge of rocks which forms the base of the adjoining mountains.

On recurring to a summary description of the present state of this section of the work, which is founded on the statements of the engineer, I find that 31 7-10 miles of the fifty, are already completed. By far the greater portion of the distance thus completed, as we observed on riding along the tow-paths, notwithstanding the lapse of five years since its completion, and the absence of all repairs during that period, is now in a condition for the immediate admission of the water. This trial of the ability of the banks and path, to resist the effects of time, rains, and frost, without the aid of repairs, affords a very satisfactory test of their durability. Much