

examination in this connection. South of Sanderson Creek, three or four streams of minor importance fall in, after which comes Bowman Creek, with a considerable valley which appears to lead westward toward Kettle River. South of this, Dog Creek and two or three other insignificant streams complete the list.

The depth of the Lower Arrow Lake, though considerable, is evidently not so great as that of the upper lake, the deepest water found in three soundings at selected localities being 460 feet. This was obtained midway up the lake and near the middle between its shores. At twelve miles from the head, and again in the centre of the lake, the depth was 125 feet only. At ten miles from the lower end and nearer to the north (which is here the steeper) shore, the depth was 170 feet.

The barometer readings taken on the Arrow Lakes, checked by station-readings at Kamloops and Spokane Falls (the latter obtained through the kindness of General Greely, United States Chief Signal Officer), though sufficient to give a good approximate value for the general elevation of the lakes, were not sufficiently numerous nor exact to determine accurately the difference of level between the two lakes. The observations taken on both lakes have, therefore, been combined in a common mean, and a difference of ten feet allowed as between the upper and lower lakes. This is probably very near the fact, the level for the lower lake thus arrived at being 1380 feet. The seasonal fluctuations of the lower lake are much greater than those of the upper, and evidence was found of a rise of twelve to fourteen feet above the actual level in June last. In consequence of the narrowness of the ends of this lake, its smaller sectional area as compared to the upper lake, and the considerable volume of water passing through it, a distinctly perceptible current exists in several places round the ends of the more prominent points.

From the southern end of the Lower Arrow Lake, the Columbia flows due east ten miles, in an almost perfectly direct course, to Sproat's Landing, where it turns to the south, and in less than a mile is joined by the Kootanie River. This part of the valley is somewhat narrow, and is uniformly bordered on both sides by rather steep mountains of moderate height and rounded form. The current of the river to Sproat's Landing is also nearly uniform, its rate being probably about four miles an hour. Just below Sproat's Landing, between that place and the mouth of the Kootanie, is a pretty strong rapid, which is said to have a crooked channel, somewhat difficult of ascent by steamers at low water. The elevation of the Columbia River at Sproat's Landing is approximately 1375 feet. The water of the river where it issues from the lower lake, though much clearer than where