

to be used for camp purposes; at the northern end it is too saline and alkaline for human use, but is used as drinking-water for cattle.

Winnemucca Lake, 3875 feet above sea-level, 26 miles long, with an average breadth exceeding $3\frac{1}{2}$ miles, is also fed by the Truckee River, and has no outlet. As in the case of Pyramid Lake, nearly all the water-supply enters at the southern end, so that this portion is fresher than the northern.

Humboldt Lake, about 4200 feet above sea-level, is but an expansion of the river that supplies it, and is held in check by an immense gravel embankment that was thrown completely across the valley by the currents of the former lake, at one time 500 feet deep at this point. The embankment has been cut across by the overflow of the lake, but the breach has been partially filled during the past few years by an artificial dam, which has greatly increased the area of the lake. During the dry season the lake seldom overflows, and is then the limit of the great drainage system of the Humboldt River; but in winter and spring the waters escape southwards and, spreading out on the desert, form Mirage Lake. Farther south, in the northern part of the Carson Desert, they again expand and contribute to the formation of North Carson Lake.

North and South Carson Lakes are shallow playa lakes in winter and spring, and in arid summers they evaporate to dryness.

Walker Lake, 4147 feet above sea-level, is about 25 miles in length by 5 miles in breadth, and has an area of 95 square miles. A remarkably uniform depth of 224 feet was found over a large area in the central and western portions.

Lake Tahoe,¹ "the gem of the Sierra," finds an outlet through Truckee Cañon into Pyramid and Winnemucca Lakes, 2400 feet below. It is a mountain lake situated about 1000 feet above any traces of Lake Lahontan, at a height of 6234 feet above sea-level, and the boundary-line between California and Nevada passes through it in a north-to-south direction near its eastern shore, so that a little more than two-thirds of its area lies in California. The thirty-ninth parallel of latitude crosses the southern end of the lake, and the longitude is 120° W. The lake occupies an elevated valley on the humid forested summit range of the Sierra Nevada Mountains. The length is about 22 miles, the greatest width about 12 miles, and the area about 193 square miles. Comparatively few soundings have been made in the deeper water, and the greatest known depth is 1645 feet. Affluents are numerous, especially in summer, when the snow on the neighbouring mountains is melting rapidly, the largest being the Upper Truckee River; the outlet is also known as Truckee River. On 17th

¹ See C. Juday, "Studies on some Mountain Lakes," *Trans. Wisconsin Acad. Sci., Arts, and Letters*, vol. xv. p. 790, 1907.